THE

Horticulturist,

and

JOURNAL OF RURAL ART AND RURAL TASTE.

VOL. IV. OCTOBER, 1849. No. 4.

EDITOR. We find you, as usual, in your kitchen garden. Admirable as all the rest of your place is, your own fancy seems to centre here. Do you find the esculents the most satisfactory of your various departments of culture?

SUBSCRIBER. Not exactly that; but I find while the shrubbery, the lawn, the flowers, and even the fruit trees, are well cared for and made much of by my family and my gardener, the kitchen garden is treated merely as a necessity. Now, as I estimate very highly the value of variety and excellence in our culinary vegetables, I take no little interest in my kitchen garden, so that at last it has become a sort of hobby with me.

ED. We see evidences of that all around us. Indeed, we scarcely remember any place where so large a variety of excellent vegetables are grown as here. Artichokes, endive, sea-kale, celeriac, winter melons and mushrooms, and many other good and rare things, in addition to what we usually find in country gardens.

SUB. And what a climate ours is for growing fine vegetables. From common cabbages, that will thrive in the coldest climate, to egg plants, melons and tomatoes, that need a tropical sun,—all may be so easily had for the trouble of easy culture in the open air; and yet, strange to say, three-fourths of all country folks, blessed with land in fee simple, are actually ignorant of the luxury of good vegetables, and content themselves with potatoes, peas, beans and corn; and those, perhaps, of the poorest and least improved varieties.

ED. Still, you cannot say we stand still in these matters. Almost every year, on the contrary, some new species or variety is brought forward, and, if it prove good, is gradually introduced into general cultivation. Look at the tomato, for instance. Twenty years ago, a few curious amateurs cultivated a specimen or two of this plant in their gardens, as a vegetable curiosity; and the visitor was shown the "love apples" as an extraordinary proof of the odd taste of "French people," who outraged all natural appetites by eating such odious and repulsive smelling berries. And yet, at the present moment, the plant is grown in almost every garden from Boston to New-Orleans; may be found in constant use for three months of the year in all parts of the country; and is cultivated by the acre by all our market gardeners. In fact, it is so popular, that it would be missed next to bread and potatoes.

Sub. Quite right; and a most excellent and wholesome vegetable it is. It is almost unknown in England, even now; and, indeed, could only be raised by the aid of glass in that country,—a proof of how much better the sun shines for us than for the subjects of her majesty, across the Channel. But there is another vegetable which you see here, really quite as deserving as the tomato, and which is very little known yet to the cultivators in the country generally. I mean the okra.

Ed. Yes. It is truly a delicious vegetable. Whoever has once tasted the "gumbo soup," of the south, of which the okra is the indispensable *material*, has a recollection of a good thing, which will not easily slip from his memory. All over the southern states okra is cultivated, and held in the highest esteem.

Sub. And there is no reason why it should not be equally so here. Except to the north of Albany, it will thrive perfectly well, and mature an abundance of its pods, with no trouble but that of planting it in warm rich soil. See what a handsome sight is this plat, filled with it, though only 10 yards square,—rich, luxuriant leaves, blossoms nearly as pretty as an African hibiscus, and pods almost as delicate and delicious as an East India bird's nest. It has kept my family in materials for soups and stews all the season, to say nothing of our stock for winter use. And besides being so excellent, it is, do you know, the most *wholesome* of all vegetables in summer.

Ed. We know its mucilaginous qualities seem intended by nature to guard the stomach against all ill effects of summer temperature in a hot climate. How do you account for its being so little known, though it has been in partial cultivation nearly as long as the tomato?

Sub. From the fact that inexperienced cooks always blunder about the proper time to use it. They pluck it when the pod is two-thirds grown and quite firm, so that it colours the soup dark, and all its peculiar excellence is lost. Whoever gathers okra should know that, like sweet-corn, it must be in its tender, "milky state," or it is not fit for use. A day too old, and it is worthless.

Ed. You spoke just now of okra for winter use. As your *ménage* is rather famous for winter vegetables, we must beg you to make a clean breast of it to-day, since you are fairly in the talking mood, and tell us something about them. Begin with okra, if you please.

Sub. Nothing so simple. To prepare most vegetables is, by the aid of our plentiful hot, dry weather, as easy as making raisins in Calabria. You have, for instance, only to cut the okra pods into slices or cross cuts, half an inch thick, spread them out on a board, or string them, and hang them up in an airy place to dry, and in a few days they will be ready to put away in clean paper bags for winter use; when, for soups, they are as good as when fresh in summer.

Ed. At what age do you take the pods for drying?

Sub. Exactly in the same tender state as for use when fresh.

Ed. And the delicious Lima beans which you gave us—when we dined with you last Christmas Day—as green, plump, fresh and excellent as if just taken from the vines?

Sub. That is still easier. You have only to take the green beans and spread them thinly on the floor of the garret, or an airy loft; they will dry without farther trouble, than turning them over once or twice. To have them in the best condition, they should be gathered a little younger

than they are usually for boiling in summer. Lima beans are so easily grown and prepared for winter use, and are so truly excellent, that my family usually dry enough for use every other day all winter; and they are so fresh and tender (being soaked in warm water for 12 hours before cooking,) that I have frequently some little difficulty in persuading my guests at a dinner in the holidays, that I have not a forcing house for beans, with the temperature of Lima all winter.

Ed. That is an easy and simple process, and its excellence we well know from experience. But, best of all, and most rare of all, is the tomato, as we have eaten it here, in mid-winter. As we have seen many trials in preserving this capital vegetable for winter use, nearly all of which were partly or wholly failures, pray let us into the secret of your tomato formula, which we promise not to repeat to more then eight or ten thousand of our particular friends and readers.

Sub. You are heartily welcome to tell it to twenty thousand. It *is* a real discovery for the gourmand in winter, who loves the pure, genuine, unalloyed and delicious acid flavor of the *Solanum Lycopersicum*, and knows how greatly it adds to the piquancy of a beef-steak, done to a second, and reposing, as Christopher North would say, in the mellow richness of its own brown juices.

Ed. Do'nt grow so elegant over the remembrance as to forget the *modus operandi* of drying. Remember we must stake our reputation on its being equal to the genuine natural berry, when it is of the colour of cornelian, and plucked in the dew of a July morning.

Sub. I remember. First,—gather the tomatoes.

Ed. When?

Sub. When they are quite ripe, least full of water, and most full of the tomato *principle;* that is to say, in sunny weather in July or August. If you wait till September, or, rather, till the weather is so cool that the fruit is watery, you will fail in the process, for want of flavor.

Ed. Go on.

Sub. Choose tomatoes of small or only moderate size. Scald them in boiling water. Next,—peel them, and squeeze them slightly. Spread them on earthen dishes, and place the dishes in a brick oven, after taking the bread out. Let them remain there till the next morning. Then put them in bags, and hang them in a dry place.

Ed. That is certainly not a difficult process, and may be put in practice every baking day by the most time-saving farmer's wife in the country. And the cooking?

Sub. Is precisely like that of the fresh tomato, except that the dried tomato is soaked in warm water a few hours before hand. For soups, it may be used without preparation; and a dish of this vegetable, dried in this way and stewed, is so exactly like the fresh tomatoes in appearance and flavor, that he must be a nice connoisseur in such matters who could tell in what the difference consists.

Ed. We can vouch most entirely for that; and after thanking you for the detail, have only to regret that we could not have published it in mid-summer, so that all our readers could have had a fine dish of tomatoes when the thermometer is down below zero.

Sub. By steadily pursuing the tomato drying every baking day in July and August, we get enough to enable us to use it freely, and even profusely, as a winter vegetable; not as an occasional variety, but a good heaping dish full very often.

Ed. What is to be done with these small green melons which I see your man gathering in his basket? It is so late now that they will not ripen, and they are the perquisites of the pigs, doubtless.

Sub. You never made a greater mistake. For the pigs! Not if they were Westphalia all over. Why, that is the most delicious vegetable we have, at this season of the year. "Butter would not melt in your mouth" more quickly than that vegetable, as you shall have it served up on my table to-day.

Ed. Pray, what do you mean?

Sub. That these tardy after-crop musk-melons, trampled under foot and fed to the pigs, are the greatest delicacy of the season.

Ed. *Fricaseed*, I suppose; or "cut and dried," for winter use!

Sub. By no means; but simply cut in slices, about the fourth of an inch thick, and fried exactly in the same manner as egg plants. Whoever tastes them so prepared, will immediately make a memorandum that egg plants are thenceforward *tabooed*, and that melons, "rightly understood," are as melting and savory in their tender infancy, as they are luscious and sugary in their ripe maturity.

Ed. We shall be glad to put it to the immediate proof. But we must bring this talk to a close, or we shall be suspected of having lost all taste but the taste for the flesh pots of Egypt.

Sub. But not till I have shown you my plat of "German greens," all growing for use next March, and my fine Walcheren cauliflowers, planted late, and which I shall "lift" at the first smart frost, and carry them into the cellar of my outbuildings, where they will flower and give me the finest and most succulent of vegetables all winter long, when my neighbors have only turnips and Irish potatoes. But you have taught the public how to manage all this in the previous numbers of your journal, so that I find every one begins to understand that it is as easy to have fine cauliflowers at Easter as Newtown Pippins. And now let us end this gossip and take a turn in the orchard, where I must show you my Beurrés and Bergamots.

ON THE SUMMER TREATMENT OF GREEN-HOUSE PLANTS—NO. II.

BY R. B. LEUCHARS, NEW-HAVEN, CT.

Watering.—Much of the success attending the operations of gardening, depends upon the wisdom exercised in using means adapted to the circumstances of the case. The intense solar heat, which has prevailed for some time past, is no doubt calculated to make us give up plant growing in despair; and many of us have had enough to do lately to keep our plants alive, without sitting down to write a long article about the particular methods we adopted for doing so. I am very certain, however, that a great deal of the water carried lately, has been so much labor thrown away. Of this fact, I have fully satisfied myself by every day's observation. Daily *dribblings* of water do little good, (if not injury,) to plants thoroughly exposed to the sun's rays, whether in pots or in the open ground. Surface roots are encouraged, only to be killed when the sun dries off the surface moisture. The ground becomes crested, and is rendered impervious to atmospheric action; and not in one

case out of fifty do the spongioles absorb one single drop of the moisture so applied. This argument bears more strongly upon sandy soils, which contain but a small quantity of organic matter; and hence, a proportionately small amount of water is chemically combined. It is best retained mechanically among the pores of the surface earth, until it is carried off by evaporation.

When water is applied to the plants and trees, growing in the open ground, it ought to be done thoroughly, and done but seldom; and if a good soaking cannot be given them, the better way will be to let them alone. Stirring the soil somewhat deeply will let the water more readily to the roots; and stirring the surface gently the day after watering, will prevent the moisture from being drawn off so rapidly by the sun's rays. The roots will also be kept cooler, because the rough surface will present an impediment to the transmission of the heat downwards.

There is some difference of opinion among practical men, regarding the proper time for watering plants. Some prefer the morning, others the evening, and both parties present very plausible arguments in their favor. But I think the great majority of people, by a sort of general consent, adhere to the system of watering at night; without, however, having any very well determined notions whether it is right or wrong,—doing it just because everybody else does it,—each person taking the example of his neighbor as a very good reason why he should do it himself. We have, indeed, some reason to suppose that evening watering is preferable to that of the morning, because the atmosphere then becomes moister, by the descension of the vapors which have been drawn up, and suspended in the air by the heat of the sun. The moisture is thus received more gradually into the system of the plants. My own experience, however, has induced me decidedly to prefer the morning watering; and I think I may say that scientific men are for the greater part in favor of this method, especially in periods of long continued drouth, in light, silicious or sandy soils.

One of the principal objections to watering in the evening is cooling the surface excessively, and chilling the roots of the plants. Nothing is more injurious to vegetable, as well as to animal life, than rapid changes of temperature. And this must be produced by the application of water 50° or more below the temperature of the earth in which the plants are growing. The difference is sometimes much greater, when no care is exercised in modifying the temperature of both. In the moist climate of northern Europe, and some other parts of the globe, where the number of rainy days exceeds dry ones, this circumstance has less influence on vegetation, because the temperature of the surface soil seldom exceeds the lower stratum of air. But under our scorching sun, the fact is different, and is perceptible to the most unobservant individual, and the cause is obvious; for here the temperature of the soil frequently rises from 10° to 20° above the superincumbent atmosphere. The wilted appearance of our vegetables, and the stunted growth of our trees, is not owing to the excessive heat of the atmosphere, but rather the excessive heat of the soil, and the absence of moisture; and hence, we need not exercise our energies in reducing the temperature of the atmosphere by evaporation from the soil, but rather in reducing the temperature of the soil by the absorption of moisture from the air and otherwise.

Among the means in our power of modifying the excess of terrestrial heat, I would mention, first, by giving the soil the capacity of *containing* and *retaining* moisture. This is done most effectually by adding loam, clay, and peat, (or muck, as it is called here.) These soils not only absorb moisture in the greatest quantity from the atmosphere, but suspend it in their pores for the greatest length of time. Moreover, the organic matter they contain combines with the water quickly, and supplies food to the plants. Secondly, rendering the soil capable of supplying itself with moisture by capillary power. To effect this, we must trench deep,—2, 3, 4, or 6 feet. No matter how deep we go, providing we keep the best soil always on the surface. All substrata contain a large amount of water, and sandy strata, on impermeable beds, generally the greatest, as they absorb the water more quickly when it falls. By deep trenching, the subsoil is opened up; and when dry weather comes upon us, with its attendant evils, then, by capillary action, this water rises from beneath, bringing with it the soluble substances that exist in the subsoil through which it ascends. On this point Johnston remarks: that in sandy soils, and generally in all light soils, of which the particles are very fine, this capillary action is of great importance, and is intimately connected with their power of producing remunerating crops. They absorb the falling rains with great rapidity; and these carry down the soluble matters as they descend. On the return of dry weather the water re-ascends from the lower strata, and again diffuses the soluble ingredients through the upper soil.—[Johnston's Ag. Chem.] Thirdly, by the artificial application of water; and by its general applicability to the culture of ornamental plants, this method more particularly demands our attention. But whether the plants be growing in flower-pots or in the flower-garden, we cannot treat on the subject of watering without, at the same time, considering the nature of the soil in which the plants are growing. The power of soils is so different of absorbing and retaining water, that it ought to be the first business of a plant-grower to procure that which is most suitable. We know that the best soil for soft wooded plants, is that which contains the largest quantity of decomposing matter; and we know, also, that the coolness of a soil is just in proportion to the moisture, or rather the organic matter, it contains. This is sensibly the case; for the sandy and gravelly soils, which are the hottest, are also the dryest, and on that account also retain their heat the longest. It has been said by some authors, that dark coloured soils absorb heat from the sun's rays more rapidly, and attain a higher temperature than soils of other colours. But this will only be found to be the case when both soils are chemically alike, and this is seldom, if ever, the case; for the amount of organic matter which black soils generally contain, more than counterbalances their superior power of absorbing heat; and they will frequently be found 10 or 12 degrees below the temperature of sandy soils, immediately beside them. On the 23d of last month, I placed the bulb of a thermometer 6 inches below the surface, in the soil of a border, made up of black peat earth, clay, and a quantity of manure, mixed together,—the black soil predominating, and giving its colour to the whole. After remaining an hour, the mercury rose only to 93°. On the same border, a few feet distant, in the common soil of the garden—rather light and sandy—at the same depth, the thermometer rose in a few minutes to 104°; a

difference of eleven degrees, which I accounted for by the retention of moisture in the black soil. At the same time, the lower stratum of air was 91°; nearly as hot as the black soil. In a number of subsequent trials, I have never found the mercury to rise above 90° in the black, and 101° in the sandy soil. On the day above mentioned, the water in two different wells in the garden stood respectively at 50° and 56°. I have known the water of deep wells even colder than this; yet, regularly supplied to thirsty plants after a hot day. This has much the same effect upon plants as drinking excessively of cold water has upon the animal system.

The flaccid appearance of plants in a hot day evidently shows that the evaporation from them by their leaves, is too great for the supply of moisture they draw from the earth by their roots. The vital energies of the plants are virtually suspended. To speak analogically, the plants are in the hot, dry paroxysm of a fever; and the absorption of a liquid 50 degrees below the temperature of its own fluids is, to say the least, of very doubtful propriety, and in violation of any law with which physiology has yet made us acquainted. Thirsty plants possess the power of absorbing moisture almost as soon as it is placed within reach of their roots or leaves. In some plants, that are translucent, the ascent of a coloured fluid is immediately perceptible. As much of the fluid is absorbed as the plant is capable of suspending for the time into its vascular system, whether the fluid so absorbed be nutritious or deleterious to its vital existence.

I have digressed thus far from my text, for the purpose of illustrating more plainly the physical relations which various soils and water have to each other; for unless we know how these bear upon each other in the open garden, it is impossible that we can succeed in any systematic course of cultivation in pots; for although we have more control over them, they are also more dependant upon our care and wisdom for the essentials of their existence. Plants kept in a green-house during summer, may be watered any time of the day. I prefer watering about noon. But the water should be exposed to the atmosphere for a few hours before it is used. The plants, of course, must be thoroughly shaded by a rolling blind. But I prefer the early part of the morning for all plants that are not in the house. About this time, the earth and the atmosphere are beginning to lose the moisture they received by condensation the previous night; and as the leaves absorb moisture generally by their under surface, we thus supply them with it, by the exhalations of this water during the day; and thus we are in some measure able to modify the excessive changes of temperature which, in my bumble opinion, is one of the greatest ills to which vegetation is heir, and which has heen abundantly exemplified in the spring that is past.

The subject of watering is one of the greatest importance, and ought to be duly and deeply considered by practical men. The mind of a gardener must be continually active, to be successful in his pursuits; and none, however extensive or limited his charge, can exempt himself from mental as well as physical exertion. In our profession, the mind is truly the standard of the man. And as we advance in mental culture, we unconsciously discover that the "power of knowledge" is not a mere figure of speech, nor an empty sound. It makes difficulties disappear, which before seemed unsurmountable; and it enables us to show that the crude elements of a working man's nature are as susceptible of arrangement,

of improvement, and of polish, as the highest on earth; and it manifests to us an unmistakeable fact,—that Dame Nature supplies us with no apology for remaining ignorant of those simple lessons which she teaches to all.

In green-house collections, we frequently find gardeners bestowing much care and admiration upon those subjects that are not only worthless in themselves, but ill adapted for the place and period in which they are made to appear. I do not wish to find fault with any one for throwing a halo of novelty round a favorite plant, however inferior it may be, when he has had no opportunity of knowing better. But I think it advisable that we ought to direct our attention to those plants that accommodate themselves most willingly to the circumstances in which we place them; and of these, there are more than abundance to afford continual successions all the year round. Hundreds of the finest flowering plants, for the summer adornment of green-houses and conservatories, are now in the nurserymen's collections, and are comparatively unknown. The nurserymen of America are far ahead of the gardeners, and of the amateurs too, at least in plant culture; for they are annually importing the newest and rarest plants, and have but little compensating return. The fault lies generally with the gardeners, and not with the amateurs; for many of the loveliest objects of Flora's kingdom will not bloom in the open air in New-England, nor bear the burning rays of our scorching sun; and almost every person has experienced the difficulty of keeping plants healthy in a dwelling-house, even for a few weeks together. I shall not here enter into the cause. It is sufficient to state the fact; and to say that a remedy can be found in a well managed green-house, which should be adjoining the chief apartments of the dwelling-house. Here the plants can be properly attended to, and afford the highest gratification to the family, without injury to themselves.

R. B. Leuchars,
Gardener to Prof. Silliman.
New-Haven, Ct., August, 1849.

NOTES ON FOREIGN GRAPES AND OSAGE ORANGE HEDGES.

BY ROSWELL L. COLT, PATERSON, N. J.

Dear Sir—In your September Horticulturist, I observe some remarks from Professor Turner on grape culture.

I have tried faithfully, and expensively, the raising of European grapes by open culture. No one could have taken more pains, or have had a better position for their growth than I have,—a gravelly hill, facing due south, protected from north winds, with a gentle slope of 30 feet descent. This I trenched 3 feet wide, 3 feet deep, and filled the border with bones, old leather, oyster shells, old mortar, and broken brick, 2 feet deep; then 1 foot with a rich compost of turf, virgin earth, slaughter-house manure, charcoal dust, and wood ashes. In this I planted 700 vines, of the best eating Eropean varieties, in rows running north and south, 6 feet apart each way, and trained them on a wire trellis 5 feet high.

The first year they bore I had some fine grapes, and took the first premium at the New-York Institute for grapes by open culture. The next year I had fewer grapes in quantity, and poorer in quality. The

third year they fell off still more. The fourth year, entirely worthless; and I have dug them up. I ought to have said I had the power to water at pleasure, from running water on the top of the hill. This only confirms what my friend S. G. PERKINS, Esq., of Boston, predicted to me. But in my various experiments on grapevines, I find that a large dressing of wood ashes is decidedly beneficial; and my grapes this year, in my vinery, are decidedly of better flavor, and better colour, for this treatment. I ought to say, that at the same time I have twice watered them, with a decoction of potash dissolved in water, say 10 lbs. of ashes to 20 gallons of water.

I find you have several times been asked if the Osage Orange succeeds as far north as this, in making a good hedge. All I can say is, I have tried it for five years, and have never lost a plant by winter frost or summer drouth; and that if one can spare the ground for the spread of the roots, a handsomer or better hedge cannot be wished for. The Osage Orange cannot be propagated by cuttings, or, at least, I have not succeeded; but the roots, which extend 10, 12, or I know not how many feet, if cut into lengths of 8 inches, will send up shoots that grow luxuriantly.

Yours, &c., ROSWELL L. COLT.

Paterson, Sept. 10, 1849.

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[Mr. COLT's experience with foreign grapes in the open air precisely corresponds with that of every other trial in our knowledge. The evil, no doubt, lies in the *climate*, since nowhere are more delicious or finer grapes grown than in vineries in the northern states. ED.]

REMARKS ON BARK-BOUND CHERRY TREES.

BY F. R. ELLIOTT, CLEVELAND, OHIO.

IN the last February number of the Horticulturist appeared an article from Prof. TURNER, of Illinois college, upon the disease of the cherry tree; attributing it almost entirely to the trees becoming "*bark-bound*," and advising for its remedy the peeling of the outer corticle of bark entire.

I have the greatest respect and esteem for Prof. TURNER as one of my own correspondents, and as one who is doing much to advance horticultural science at the west. Yet, not having perfect faith in his theory, I trust it will not be deemed uncourteous in me to state what I consider the primary cause and the ultimate remedy; provided, in so doing, I occupy not too great a portion of your columns.

With an eye to this subject, I have, during the four years past, examined large numbers of cherry trees of all ages and sizes, and growing upon varied soils.

As Prof. TURNER says, writers have advised various specifics; one a blue clay, another light, thin soil, etc. etc., and all, like unto Mr. ALLEN's system of orcharding, on a large scale, and laying his orchard down to grass,—being only to diminish the annual growth of the tree, by lessening the amount of ascending sap, and thereby producing a short growth of fine close grain, fully ripened, and capable of enduring the sudden and exciting changes of our western climate. "Again, others have shaded the trunks from the hot sun

in summer." This I have myself practiced, not only in summer, but also in winter, and have seen the same practiced upon trees of twenty years' age; and, as Prof. T. remarks, "the remedy has as often failed as it has succeeded." The slitting with a knife was practiced by a friend of mine, an amateur in fruit culture, many years since, and without success; coming at last to the conclusion which impressed the mind of Rev. H. W. Beecher, who, in a few remarks respecting this practice, says "he should as soon think of slitting the skin on a boy's legs, or on calves or colts, as a regular part of a plan of rearing them, as to slash the bark of sound and healthy trees." Prof. Turner *does not* advocate the slitting of the bark I am aware. Yet I allude to it here, from the fact of having noticed a large number of trees this season, most unmercifully slitted and gashed — vertically, horizontally, zig-zag, and waved: "Prof. Turner, of Illinois college, advises it, and we thought we would try it."

Every one who has ever tried it upon trees, knows that by slitting the bark of almost any tree when it is in vigorous growth, it will immediately expand, as though it had been compressed by a bandage. Artificial channels, so produced, are however soon filled up by new granulations, or layers of bark, and of course as much "bark-bound" as before the operation.

Professor Turner would strip the entire outer corticle from the tree, and by this check the accumulation of sap to the gorging of the vessels of the trunk as dead matter. This, I believe, is the practice, as advised by him to be pursued. Prof. T. remarks that this dead matter accumulates upon "the *southern* side of the tree, to be frozen and torn off by the frosts of winter." The word *southern*, I presume, is placed rather to designate the side of the tree upon which the "dead matter" is most generally supposed to be found, than as decisive of the *only* side upon which the tree is affected.

But now to my own observations and belief. And first, the bursting of the bark is not confined alone to the cherry, but may be found upon the apple, pear, peach, and Linden tree; possibly upon others, but not to my knowledge. The same exudation of sap or gummy matter does not follow such bursting, except in the peach. This bursting is also as rarely found upon trees of the common Mazzard or the Kentish, as upon the apple and pear; and therefore the trunks of these varieties are naturally as healthy and little subject to this bursting of the bark as other species.

To satisfy myself of this, I have examined numbers of large trees of Mazzards, both growing upon the richest of clay loam soil, on moderate soil, and upon a sandy loam; and also have examined the trunks of large trees, the tops of which are yearly producing the Black Heart, White Heart, Bigarreau, &c. Many that I have seen were grafted or budded at about one-half the distance up the trunk, leaving one-half the trunk Mazzard, and the other of the budded variety. In all cases, I have found the Mazzards the most free from any bursting of the bark. The rage with purchasers of trees, to procure "*large*, straight and thrifty trees," has doubtless been an incitement to nurserymen to prepare the soil in which they were growing trees for sale, so that they could produce a growth of from eight to eleven feet in a season; and this urging of the soil, too often aided by the strong roots of an old sucker, rather than the fibres of a young seedling. These trees, so produced, cannot have wood as firm and close as is natural to the cherry, because the growth is beyond its natural habit.

The trees, therefore, are not as capable of enduring our sudden changes of climate as they would be, were they grown only about three and a half to four feet the first season,—forming a close fine grained wood, well ripened. That a close grained, well ripened wood endures our climate best, is allowed by all; and is proved, by a notice of such trees as the Elm, Maple and Seckel, or most natural pear trees, contrasted with the Ailanthus, Willow, and many other rapid growing varieties.

That peeling the outer corticle of a tree entire, *may not* produce a healthy plant out of one diseased from its birth I do not assert; but as yet, I am not inclined to such belief. I regard the tree so diseased from its infancy, that if left to continue where first grown, or transplanted to even a richer or poorer soil six years—nay, often two years will not have passed without the evidence of over feeding in youth showing itself, by bursting of the sap vessels and exudation of its sap; this as often upon the north side of the tree as upon the south, caused, not directly by the hot sun, but mainly from the coarse spongy nature and early habit of the tree, easily acted upon by sudden changes of temperature.

If we advance the idea that some varieties are more hardy than others, that some will endure our climate when others will not, we should certainly attempt to build our support upon the evidence given by such trees as were of close grained wood, and moderate growers from the first. These may be found in the Dukes and Morellos; the Belle de Choisy and May Duke being rarely complained of as affected by the bursting of the sap, although of late I have heard of two instances of the latter variety, both however traced to the fact of being upon sucker stocks, and having been excessively stimulated during their first year's growth, afterward in good strong soil.

The "fire-blight," or "frozen sap-blight," in the pear, is rarely found in the Doyenne or Seckel, but often upon the Bartlett and Dutchess d'Angouleme, and it is argued by writers to be induced from the rapid growth and spongy texture of wood in the latter varieties. So, why not this bursting of bark in the cherry, be attributed to the same cause?

The pear, in "frozen-sap-blight," does not exude a gum, because such is not its nature; but its blackened appearance upon the body often coincides with that upon the cherry, and have by the writer been removed in the same way.

To support my own views, of the necessity of trees being not too much stimulated in early growth, I have examined in other's grounds, and have those in my own grounds—those that were grown slowly, say not over four feet the first season, in close proximity to others that were grown some eight feet the first year from bud. The result as yet has been, that while, of the trees grown slowly at first, as many are of the rapid growing varieties, as among those grown rapidly the first year; yet those of early slow growth have hardly shown any exhibition of bark bursting, while the others have abounded yearly in blackened spots, and bursting bark, and when cured in one place upon the body, has shown itself in others, and at last among the larger limbs.

That peeling the outer corticle entire, may not aid the tree for a time when so diseased, I may not now say; but that it will promote it from a sickly to a healthy tree, I doubt. And if it will aid or resuscitate the cherry, why will it not the pear?

The recommendation to grow the limbs low upon the bodies of trees, is one which

I think I advanced in a communication to the Prairie Farmer some two years since, and therefore I of course coincide with Prof. TURNER in that point; but beyond that, I would, to produce permanent healthy cherry trees, have them worked (if low down,) upon small seedling stocks, planted in ground that will not cause a growth the first year from bud of over four feet; or, rather, I should prefer the bud or graft inserted just below the point at which the head is intended to be formed, as in that case a less amount of the tree is removed when cutting back to the bud, a less injury is caused to the stock, and less growth of that season the result. Trees so grown during the first two years from the bud, I think, may then be transplanted to *any* soil, and be no more liable to "bark bursting" than the pear or peach.

With those trees already planted that are subject to being affected with "bursting bark," I find no difficulty in healing diseased points, by simply cutting away all dead matter, washing the wound with strong soap-suds, and wrapping it up in fresh cow droppings. Very respectfully,

F. R. E.

Cleveland, Ohio, August, 1849.

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[As nothing is easier than the culture of all the finest cherries on the Hudson, and throughout most of the middle states, we know but little from our own observation of the difficulties which are largely experienced in the western states, and therefore welcome these intelligent discussions to our pages. The excessive luxuriance of growth, caused by the fertility of many western soils, is undoubtedly the cause of many obstacles in the way of the fruit-grower, which must be met by a resort to various counteracting expedients on his part. But even here, bark-bound trees are occasionally seen. Our own remedy here, is scraping the trunks, and washing them repeatedly with soap-suds; but we have also seen bark-bound trees restored to a sound normal state by the old and long practiced expedient of slitting the bark. ED.]

NEW REMEDY FOR THE CURCULIO.

BY GEO. GABRIEL, NEW-HAVEN.

DEAR SIR—The curculio or plum weevil is a troublesome insect to those who attempt to raise plums on a light soil, like ours at New-Haven. Various methods have been recommended and tried for its destruction; many of which, to my certain knowledge, have proved ineffectual. I have also tried experiments not "recommended in the books;" and, I flatter myself, not without success. In short, I think I have discovered an effectual preventive against the attacks of this mischievous insect.

Our light soil and locality appear to be well adapted to the plum, and every season opens with a fine prospect of an abundant crop, which is as often cut off by the ravages of this pernicious insect.

The remedy which has proved effectual with me, and which I wish to communicate, is this: I remove the surface of the earth around the tree about four feet diameter, and from two to three inches deep, and spread from three to four quarts of guano. Replace the earth, and upon the top of this

put about two bushels of iron shavings and filings, or the sweepings and waste of an iron factory, which costs nothing but the carting. The guano should not, of course, come in contact with the roots of the tree. The quantity should also correspond somewhat to the size of the tree.

The one experimented on is about three inches diameter in the trunk, and about six feet across the branches.

There are about a dozen varieties of plums in my garden, which have been alike attacked by the curculio, while the tree (a Green Gage,) upon which I have experimented, has been exempt, and is now so full of fruit as to require propping.

Another Green Gage within fifty feet, and equally full of fruit, yet not less than nine-tenths of it was punctured by the curculio, and dropped prematurely. Other gardens in the neighborhood have suffered in the same way and to as great an extent.

The simplicity of the remedy I hope will not deter any from testing it, as it is well known that the simplest remedies often prove the most efficacious. Very respectfully, GEO. GABRIEL.

New-Haven, Conn., Sept. 4, 1849.

ON THE DISADVANTAGES OF DEEP PLANTING TREES.

BY THOS. MEEHAN, PHILADELPHIA.

DEAR SIR—An impression obtains among American gardeners, that trees should be planted deeper in this country than in Europe, on account of the greater warmth of the summer season. This impression is erroneous. It can only have arisen by imperfect observation; as it is opposed alike to comparative experiment, and to every known principle of vegetable physiology.

Were not wonder and astonishment incompatible with the character of a wise man, one might think it strange that any person could be found in the universe, who would persevere in doubtful practices when very simple experiments would often set disputation on such subjects forever at rest. But, as Marryat's Stapleton says, "it is all human natur;" and so it must be endured, and the best made of it. Such may be said on the present subject. Let two hardy fibrous rooted shrubs be planted side by side, the only difference being, that one be planted 12 inches beneath the surface and the other only 6, and 12 months will show that the shallow planted shrub has much the advantage. If the soil be any way rich, the difference between them will be the more marked. I once had to plant a very wet piece of ground with hardy evergreen shrubs. I had not sufficient influence to get it drained. I had only to plant. Knowing well these trees would do me no credit if planted *in* such soil and in the ordinary way, I planted them *on* the ground. I had the ground dug deep, as if for ordinary planting, laid the roots flat on the surface, threw on them broken sods, and covered the whole with fine soil. These trees afterwards afforded me as much satisfaction as any I ever planted. They contrasted strongly with the yellow appearance of others, which had been planted *in* the soil before.

It is the bane of gardening, that it is afflicted with a host of mere theorists. Men of no experience whatever,—wanting even an observing turn of mind,—will often pass

themselves off on the public as first rate gardeners. This acts injuriously on the prosperity of gardening in many ways. One is, that with inconsiderate people, theory is often underrated in its importance. This should not be. It ought to be an established rule, that no person should be deemed a first rate member of any profession, who is not able to tell *why* a thing is to be done as well as *how*. He should, in other words, be master of the theory of his profession as well as the practice. This holds good in the simplest operation. A scientific workman is worth two mere laborers; every one knows that. With these views, it is necessary to consider why trees should be shallow planted.

It has not yet been placed beyond dispute that vital action, or life in vegetable organisms, is caused by electric agency. Many modern physiologists incline to that opinion. But so far as the principle has been tested by mechanical contrivances, it seems to be a failure. It is, however, certain that vegetable life derives an essential stimulus from heat. A great—probably the greatest—part of the heat necessary to the existence of vegetable life, is derived through the medium of the roots. Hence arises the necessity, that no impediment intervene to interrupt the relations naturally existing between heat and the roots. It is essential that the temperature of the atmosphere should generally approximate to the soil around the roots; because the evaporation of the juices of a plant through the leaves, by a given degree of heat, the same or nearly the same degree of heat can only supply, through the roots. And if the roots of plants, therefore, be in a colder medium than the leaves, more matter will be evaporated than the roots can supply; and if the roots are in the warmer medium, more matter is received into the system than the leaves can digest. In either case, death is the consequence. It is probable the temperature of the earth and air never coincide altogether; one being sometimes much warmer than the other, and sometimes the contrary. It seems to be an established principle, that vegetation is healthier the nearer these approximate. There is a great difference in the temperature of the soil at different depths, near the surface of the earth. Lindley has somewhere published a case, where a trial in summer gave 61°, Fahrenheit, at 6 inches below the surface; and at 3 feet, 44°. The nearer, then, the roots are to the surface, the more equal will be the heat to the roots and to the leaves.

Even could these principles be inviolate when deep planting is resorted to, it is doubtful whether plants could long remain healthy so. It is an error to suppose, as many do, that the roots of plants feed only on the soil. They feed also on the gases floating in the atmosphere, through the decomposition of organic beings. More especially do they feed on ammonia, from which they probably derive the major part of their nitrogen. The mechanical force of the descending rain brings these substances to the surface, where they are left to be absorbed by the roots in the immediate vicinity. Roots which are far beneath the surface can so receive no benefit from these revivifying circumstances.

It follows, from these principles, that the nearer the roots of plants are to the surface of the earth, consistently with their real known *aversion to light*, the nearer will they be to those conditions which nature's immutable laws declare to be most conducive to a perfect state of health. Should the transplanted tree be likely to suffer from drouth, a good mulching will effectu-

ally prevent that, besides be of good service in affording nutriment.

Here I might lay aside my pen, but for a paper by Mr. LEUCHARS, of New-Haven, Ct., in the last number of the Horticulturist, which leads me to fear an expression in my first paragraph may be misunderstood. By American gardeners, I mean all who *garden* in this country—natives or foreigners, barring a few "honorable exceptions." Mr. L. considers all foreign gardeners, in this country, as characterized by "quacks, impositions, shows," and a host of similar derogatory adjectives; but "plenty of good gardeners might be had by sending for them." As an Englishman, I have had some experience in British gardeners at home and abroad, and am sorry that I cannot confirm his statements. First rate gardeners are the exception, and not the rule there, as well as here; in American gardeners as well as English ones; and in other professions as well as gardening, must the same exception in the perfection of knowledge be made. Mr. L.'s remarks are otherwise judicious and well timed. It is only in justice to several very excellent British gardeners that I know in this country, and whose chances of obtaining situations suitable to their abilities might be injured by such a sweeping statement, that I had thought it a duty to suggest to Mr. L. this explanation. THOS. MEEHAN.

Kingsessing, Philadelphia, Aug. 15, 1849.

WRENS THE BEST INSECT DESTROYERS.

BY J. J. S., PHILADELPHIA.

THE charming little songster, the house wren, as he is called, (*Troglodytes Aedon, Vieill,*) is well known to build his nest wherever a suitable hole in a tree or the house presents itself; and both WILSON and AUDUBON speak of an old hat, with a hole in it, as a not uncommon resort. The former author relates, that in the month of June a mower hung up his coat under a shed, near the barn; two or three days elapsed before he had occasion to put it on again. Thrusting his arm up the sleeve, he found it completely filled with some rubbish, as he expressed it; and, on extracting the whole mass, found it to be the nest of a wren, completely finished, and lined with a large quantity of feathers. In his retreat he was followed by the little forlorn proprietors, who scolded him with great vehemence for thus ruining the whole economy of their household affairs. WILSON continues:—"Scarce a house or cottage in the country is without at least a pair of them, and sometimes two; but unless there is a large garden, orchard, and numerous outhouses, it is not often the case that more than one pair reside near the same spot, owing to their party disputes and jealousies."

Either the bird has very much multiplied among us, which is no doubt the fact, or an *accidental wren box*, of which I send you a drawing, has been found by the wren so secure and dry, that, in a space of less than twenty-five acres at Laurel Hill Cemetery, near Philadelphia, I am probably safe in saying there have been this year more than fifty pair, rearing two broods each.

The drawing represents the ornamental posts of the iron railing enclosures of very many lots. *a* is the top, larger than *b*, the

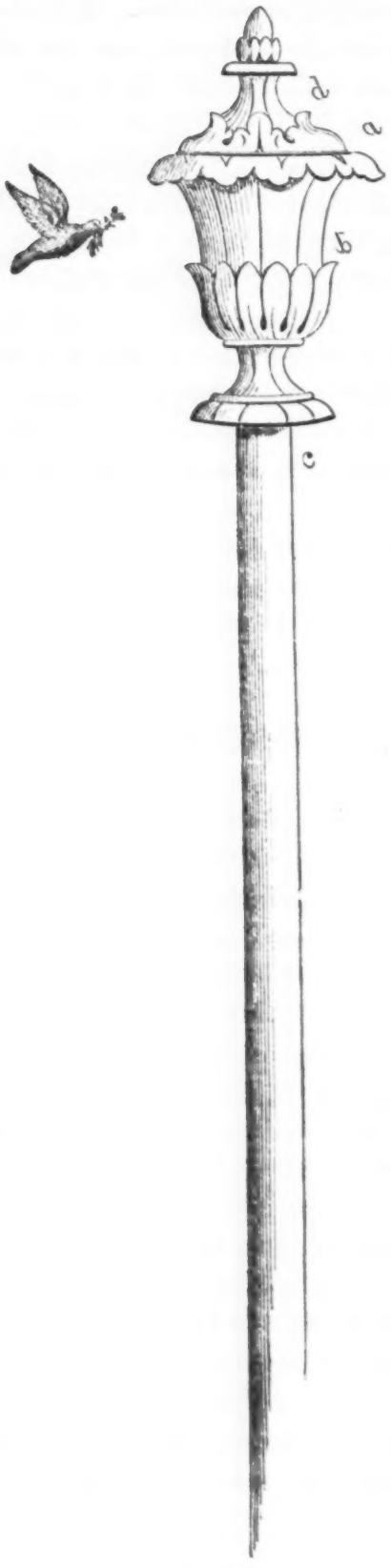

Fig. 79.

vase, which it completely shelters; but between the two is a space, serving for the entrance of the wren, invisible to the spectator without stooping, and only large enough to admit two fingers in breadth. c is the post, to which the whole is attached by a screw at the apex, *d*. It is usually not more than three or four feet high; and as the visitor passes, he is surprised to hear the chirp of the youngsters, and to see the parents every few minutes perch on the railing, and disappear under the top of the vase, *a*. This is an ornamental wren box that would be very pretty in a lawn; and Mr. Wood, the great railing manufacturer on the Ridge Road, Philadelphia, will supply them in any desired number.

It has been said by a friend* to this little bird, that "the esculent vegetables of a whole garden may, perhaps, be preserved from the depredations of different species of insects, by ten or fifteen pair of these small birds." There can be no doubt of their utility, as well as ornament to a garden; and I believe by providing suitable accommodations, we may *now* have them. However scarce they may have been in the time of Wilson, they have increased with our population, whose neighborhood they evidently court, for the insects which gardens produce in such abundance.

I should be glad to see some good contributor to the Horticulturist, whose fondness for natural objects, leads him to observe the habits of birds. *Loudon's Gardeners' Magazine* was often highly interesting in this particular. Something new to many readers might occasionally be gleaned from Wilson's most agreeable but expensive pages. As a beginning, I copy his sweet lines on the *Blue Bird*, for insertion:

* Barton's Fragments.

The winter's cold tempests and snows are no more,
Green meadows, and brown furrow'd fields re-appearing,
The fishermen hauling their shad to the shore,
And cloud-cleaving geese to the lakes are a-steering;
When first the lone butterfly flits on the wing,
When red glow the maples, so fresh and so pleasing,
Oh then comes the blue bird, the HERALD OF SPRING!
And hails with his warblings the charms of the season.

Then loud piping frogs make the marshes to ring;
Then warm glows the sunshine, and fine is the weather;
The blue woodland flowers beginning to spring,
And spicewood and sassafras budding together;
Oh then to your gardens ye housewives repair!
Your walks border up; sow and plant at your leisure;
The blue bird will chant from his box such an air,
That all your hard toils will seem truly a pleasure.

He flits thro' the orchard, he visits each tree,
The red flowering peach and the apple's sweet blossoms;
He snaps up *destroyers* wherever they be,
And seizes the caitiffs that lurk in their bosoms;
He drags the vile *grub* from the core it devours;
The worms from their webs where they rot and welter;
His song and his services freely are ours,
And all that he asks is, in summer a shelter.

The plowman is pleas'd when he gleans in his train,
Now searching the furrows—now mounting to cheer him;
The gard'ner delights in his sweet simple strain,
And leans on his spade to survey and to hear him;
The slow ling'ring school-boys forget they'll be chid,
While gazing intent as he warbles before them
In mantle of sky-blue, and bosom so red,
That each little loiterer seems to adore him.

When all the gay scenes of the summer are o'er,
And autumn slow enters so silent and sallow,
And millions of warblers, that charm'd us before,
Have fled in the train of the sun-seeking swallow;
The blue bird, forsaken, yet true to his home,
Still lingers and looks for a milder to-morrow,
Till forc'd by the horrors of winter to roam,
He sings his adieu in a long note of sorrow.

While spring's lovely season, serene, dewy, warm,
The green face of earth, and the pure blue of heav'n,
Or love's native music, have influence to charm,
Or sympathy's glow to our feelings are given,
Still dear to each bosom the blue bird shall be;
His voice, like the thrillings of hope, is a treasure;
For, thro' bleakest storms if a calm he but see,
He comes to remind us of sunshine and pleasure!

THOUGHTS ON THE FLOWER GARDEN.

[We extract the following delightful piece of writing from a number of the *London Quarterly*. It deserves to be more widely read than it is likely to be in the pages of the Review itself. Ed.]

No associations are stronger than those connected with a garden. It is the first pride of an emigrant settled on some distant shore to have a little garden as like as he can make it to the one he left at home. A pot of violets or mignionette is one of the highest luxuries of an Anglo-Indian. In the bold and picturesque scenery of Batavia, the Dutch can, from feeling, no more dispense with their little moats round their houses than they could, from necessity, in the flat swamps of their native land. Sir John Hobhouse discovered an Englishman's residence on the shore of the Hellespont by the character of his shrubs and flowers. Louis XVIII., on his restoration to France, made in the park of Versailles the facsimile of the garden at Hartwell; and there was no more amiable trait in the life of that accomplished prince. Napoleon used to say that he should know his father's garden in Corsica blindfold by the smell of the earth; and the hanging gardens of Babylon are said to have been raised by the Median queen of Nebuchadnezzar on the flat and naked plains of her adopted country, to remind her of the hills and woods of her childhood.

Why should we speak of the plane-trees of Plato—Shakspere's mulberry-tree—Pope's willow—Byron's elm? Why describe Cicero at his Tusculum—Evelyn at Wooton—Pitt at Ham Common—Walpole at Houghton—Grenville at Dropmore? Why dwell on Bacon's 'little tufts of thyme,' or Fox's geraniums? There is a spirit in the garden as well as in the wood, and 'the lilies of the field' supply food for the imagination as well as materials for sermons. 'Talke of perfect happiness or pleasure,' says old Gerarde to the 'courteous and well-willing reader,' from his 'house in Holborn, within the suburbs of London'—'and what place was so fit for that as the garden-place wherein Adam was set to be the herbalist? Whether did the poets hunt for their sincere delights but into the gardens of Alcinous, of Adonis, and the orchards of the Hesperides? Where did they dream that heaven should be but in the pleasant garden of Elysium? Whither doe all men walke for their honest recreation but thither where the earth hath most beneficially painted her face with flourishing colours? And what season of the yeare more longed for than the spring,

whose gentle breath enticeth forth the kindly sweets, and makes them yield their fragrant smells?'

And what country, we may add, so suited, and climate so attempered, to yield the full enjoyment of the pleasures and blessings of a garden, as our own? Everybody knows the remark of Charles II., first promulgated by Sir W. Temple, 'that there were more days in the year in which one could enjoy oneself in the open air in England than in any other portion of the known world.' This, which contains so complete an answer to the weather-grumblers of our island, bears also along with it a most encouraging truth to those 'who love to live in gardens.' There is no country that offers the like advantages to horticulture. Perhaps there is not one plant in the wide world wholly incapable of being cultivated in England. The mosses and lichens dragged from under the snows of Iceland, and the tenderest creepers of the tropical jungles, are alike subject to the art of the British gardener. Artificial heat and cold, by the due application of steam and manure, sun and shade, hot and cold water, and even ice—mattings, flues in every variety of pit, frame, conservative wall, conservatory, green-house, hot-house, and stove, seem to have realised every degree of temperature from Kamskatka to Sincapore. But apart from artificial means, the natural mildness of our sky is most favorable to plants brought from countries of either extreme of temperature; and, as their habits are better known and attended to, not a year passes without acclimatising many heretofore deemed too tender for the open air. Gardeners are reasonably cautious in not exposing at once a newly-introduced exotic; and thus we know that when Parkinson wrote, in 1629, the larch, and the laurel—then called bay-cherry—were still protected in winter. We are now daily adding to the list of our hardy plants; hydrangeas, the tree-peony, fuchsias, salvias, altromærias, and Cape-bulbs, are now found, with little or no protection, to stand our mid-England winters.

Then we alone have in perfection the three main elements of gardening, flowers apart, in our lawns, our gravel, and our evergreens. It is the greatest stretch of foreign luxury to emulate these. The lawns at Paris, to say nothing of Naples, are regularly irrigated to keep up even the semblance of English verdure; and at the gardens of Versailles, and Caserta, near Naples, the walks have been supplied from the Kensington gravel-pits. It is not probably generally known that among our exportations are every year a large quantity of evergreens for the markets of France and Germany, and that there are some nurserymen almost wholly engaged in this branch of trade. This may seem the more remarkable to those who fancy that, from the superiority of foreign climates, any English tree would bear a continental winter; but the bare appearance of the French gardens, mostly composed as they are of deciduous trees, would soon convince them of the contrary. It is not the severity or length of our December nights that generally destroys our more tender exotic plants, but it is the late frosts of April and May,—those 'nipping frosts,' which, coming on after the plant has enjoyed warmth enough to set the sap in action, freeze its life-blood to the heart's core, and cause it to wither and die. The winter of 1837–8 proved this fact distinctly, which had hardly been sufficiently remarked before. That year, which cut down even our cypresses, and china-roses, and from which our gorse-fields have hardly yet recovered, while it injured nearly every plant and tree on south walls and in sheltered borders, and in all forward situations, spared the tenderest kinds on north walls and exposed places; and in Scotland the destruction was hardly felt at all. It was the backwardness of their growing state that saved these plants; and the knowledge of this fact has already been brought to bear in several recent experiments. The double yellow rose, for instance, one of the most delicate of its class, is now flowered with great success in a northern exposition. It has led men also to study the hybernation of plants—perhaps the most important research in which horticulturists have of late engaged; and it has been ascertained that this state of winter-rest is a most important element in their constitution; but no doubt it will also be found that—as the dormouse, the sloth, the snake, the mole, &c., undergo

a greater or less degree of torpidity, and some require it not at all—so in plants, the length and degree will vary much in different species, and according to their state of artificial cultivation. As a general rule, young gardeners must take heed not prematurely to force the juices into action in spring, nor to keep them too lively in winter, unless they are well prepared with good and sufficient protection till all the frosts are over. The practical effect of these observations will be, that many plants which have hitherto only been cultivated by those who have had flues and greenhouses at their command, will now be grown in as great or greater perfection by those who can afford them a dry, though not a warm shelter. One instance may serve as an example: the scarlet geranium, one of the greatest treasures of our parterres, if taken up from the ground in autumn, after the wood is thoroughly ripened, and hung up in a dry room, without any soil attaching to it, will be found ready, the next spring, to start in a new life of vigor and beauty.

One characteristic of our native plants we must mention, that if we miss in them something of the gorgeousness and lustre of more tropical flowers, we are more than compensated by the delicacy and variety of their perfume; and just as our woods, vocal with the nightingale, the blackbird, and the thrush, can well spare the gaudy feathers of the macaw, so can we resign the oncidiums, the cactuses, and the ipomæas of the tropics, for the delicious fragrance of our wild banks of violets, our lilies-of-the-valley, and our woodbine, or even for the passing whiff of a hawthorn bush, a clover or bean field, or a gorse-common.

With such hedgerow flowers within his reach, and in so favorable a climate, it is not to be wondered that the garden of the English cottager has been remarked among our national distinctions. These may be said to form the foreground of that peculiar English scenery, which is filled up by our hedge-rows and our parks. The ingenious authoress of 'Leila in England,'* makes the little new-landed girl exclaim for the want of 'fountain-trees' and 'green parrots.' This is true to nature—but not less so the real enthusiasm of Miss Sedgwick, on her first arriving in England, at the cottage-gardens of the Isle of Wight. Again and again she fixes upon them as the most pleasing and striking feature in a land where everything was new to her. Long may they so continue! It is a trait of which England may well be proud; for it speaks—would we could trace it everywhere!—of peace, and of the leisure, and comfort, and contentedness of those who 'shall never cease from the land.'

We would even make gardens in general a test of national prosperity and happiness. As long as the British nobleman continues to take an interest in his avenues and hot-houses—his lady in her conservatories and parterres—the squire overlooks his laborers' allotments—the 'squiresses and squirinas' betake themselves and their flowers to the neighboring horticultural show—the citizen sets up his cucumber-frame in his back-yard—his dame her lilacs and almond-trees in the front-court—the mechanic breeds his prize-competing auriculas—the cottager rears his sun-flowers and Sweet-Williams before his door—and even the collier sports his 'posy jacket'—as long, in a word, as this common interest pervades every class of society, so long shall we cling to the hope that our country is destined to outlive all her difficulties and dangers. Not because, like the Peris, we fight with flowers, and build amaranth bowers, and bind our enemies in links of roses—but because all this implies mutual interest and intercourse of every rank, and dependence of one class upon another—because it promotes an interchange of kindnesses and favors—because it speaks of proprietors dwelling on their hereditary acres, and the poorest laborer having an interest in the soil—because it gives a local attachment, and healthy exercise and innocent recreation, and excites a love of the country and love of our own country, and a spirit of emulation, devoid of bitterness—because it tells of wealth wisely spent, and competence widely diffused, of taste cultivated, and science practically applied—because, unlike Napoleon's great lie, it *does*

* This is a pleasing continuation of her 'Leila, or the Island.' All Miss Tytler's books for children are worthy of being generally known.

bring 'peace to the cottage,' while it blesses the palace, and every virtuous home between those wide extremes—because it bespeaks the appreciation of what is natural and simple, and pure—teaches men to set the divine law of excellence above the low human standard of utility—and because, above all, in the most lovely and bountiful of God's works, it leads them up to Him that made them, not in a mere dumb, inactive admiration of His wonderful designs, but to bless Him that He has given them pleasures bdyond their actual necessities—the means of a cheerful countenance, as well as of a strong heart.

Still more—because—if ours be not too rude a step to venture within such hallowed ground—it speaks of a Christian people employed in an occupation, which, above all others, is the parable that conveys the deepest truths to *them*—which daily reads them silent lessons, if their hearts would hear, of the vanity of earthly pomp, of the beauty of heavenly simplicity, and purity, and lowliness of mind, of contentment and unquestioning faith—which sets before them, in the thorns and thistles, a remembrance of their fallen state—in the cedar, and the olive, and the palm-tree, the promise of a better country—which hourly recalls to their mind the Agony and the Burial of Him who made a garden the scene of both, and who bade us mark and consider such things, how they bud, and 'how they grow,' giving us in the vine a type of His Church, and in the fig-tree of His Coming.

Again, we would ask those who think that national melioration is to be achieved by dose upon dose of Reform or Red-tapery, where should we now have been without our savings-banks, our allotment system, and our cottage gardens? And lest we should be thought to have been led away from flowers to the more general subject, we will add that when we see a plot set apart for a rose-bush, and a gilliflower, and a carnation, it is enough for us: if the jasmine and the honeysuckle embower the porch without, we may be sure that there is a potato and a cabbage and an onion for the pot within: if there be not plenty there, at least there is no want; if not happiness, the nearest approach to it in this world—content.

> 'Yes! in the poor man's garden grow
> Far more than herbs and flowers;
> Kind thoughts, contentment, peace of mind,
> And joy for weary hours.'

Gardening not only affords common ground for the high and low, but, like Christianity itself, it offers peculiar blessings and privileges to the poor man, which the very possession of wealth denies. 'The Spitalfields weaver may derive more pleasure from his green box of smoked auriculas,' than the lordly possessors of Sion, or Chatsworth, or Stowe, or Alton, from their hundreds of decorated acres; because not only personal superintendence, but actual work is necessary for the true enjoyment of a garden. We must *know* our flowers, as well as buy them. Our great-grandmothers, who—before they *were* great-grandmothers—'flirted on the sunny terraces, or strolled along the arched and shaded alleys' of our old manor-houses,—'had their own little garden, where they knew every flower, because they were few; and every name, because they were simple. Their rose-bushes and gilliflowers were dear to them, because themselves had pruned, and watered, and watched them—had marked from day to day their opening buds, and removed their fading blossoms—and had cherished each choicest specimen for the posy to be worn at the christening of the squire's heir, or on my lord's birthday.'

In a like strain, the wise and good author of 'Human Life' beautifully says:

'I would not have my garden too extended; not because flowers are not the most delicious things, speaking to the sentiments as well as to the senses, but on account of the intrinsic and superior value of moderation. When interests are divided, they are not so strong. Three acres of flowers and a regiment of gardeners bring no more pleasure than a sufficiency. Besides which, in the smaller possession, there is more room for the mental pleasure to step in and refine all that which is sensual. We become acquainted, as it were, and even form friendships, with individual flowers. We bestow more care upon their bringing up and progress. They seem sensible of our favor, absolutely to enjoy

it, and make pleasing returns by their beauty, health, and sweetness. In this respect a hundred thousand roses, which we look at *en masse*, do not identify themselves in the same manner as even a very small border; and hence, if the cottager's mind is properly attuned, the little cottage-garden may give him more real delight than belongs to the owner of a thousand acres. All this is so entirely nature, that give me a garden well kept, however small, two or three spreading trees, and a mind at ease, and I defy the world.'

Nor do we find anything contravening this, in Cowley's wish that he might have 'a small house and large garden, few friends, and many books.' Doubtless he coveted neither the Bodleian nor Chatsworth, and intended his garden to be 'large,' only in comparison with his other possessions.

It is this limited expenditure and unlimited interest which a garden requires, combined with the innocence of the amusement, that renders it so great a blessing—more even than to the cottager himself—to the country clergyman. We must leave to the novelist to sketch the happy party which every summer's evening finds busied on many an English vicarage-lawn, with their trowels and watering-pots, and all the paraphernalia of amateur gardeners; though we may ask the utilitarian, if he would deign to scan so simple a group, from the superintending vicar to the water-carrying schoolboy, where he would better find developed 'the greatest happiness of the greatest number,' than among those very objects and that very occupation where utility is not only banished, but condemned.

We would have our clergy know that there is no readier way to a parishioner's heart—next to visiting his house, which, done in health and in sickness, is the key-stone of our blessed parochial system—than to visit his garden, suggesting and superintending improvements, distributing seeds, and slips, and flowers, and lending or giving such gardening books as would be useful for his limited domain. And many a poor scholar, in some obscure curacy, out of the way of railroads and book-clubs,

> 'In life's stillest shade reclining,
> In desolation unrepining,
> Without a hope on earth to find
> A mirror in an answering mind,'

has made the moral and intellectual wilderness in which he is cast, bloom for him in his trees, and herbs, and flowers; and if unable, from the narrowness of his means and situation,

> 'To raise the terrace or to sink the grot,'

has found his body refreshed and his spirits lightened, in growing the salad to give a relish to his simple meal, and the flower to bedeck his threadbare button-hole,—enabled by these recreations to bear up against those little every-day annoyances which, though hardly important enough to tax our faith or our philosophy, make up in an ill-regulated or unemployed mind the chief ills of life.

Pope, who professed that of all his works he was most proud of his garden, said also, with more nature and truth, that he 'pitied that man who had completed everything in his garden.' To pull down and destroy is quite as natural to man as to build up and improve, and this love of alteration may help to account for the many changes of style in gardening that have taken place. The course of the seasons, the introduction of new flowers, the growth of trees, will always of themselves give the gardener enough to do; and if the flower-garden is perfect, and there is a nook of spare ground at hand, instead of extending his parterres, which cannot be kept too neat, he had better devote it to an arboretum for choice trees and shrubs; or take up with some one extensive class—as for a thornery or a pinery; or make it a wilderness-like mixture of all kinds. Such grounds will not require mowing more than twice or thrice in the year, and will afford much pleasure, without much labor and expense. If there is a little damp nook or dell, with rock-work and water at command, let it by all means be made a fernery, for which Mr. Newman's book will supply plenty of materials.

To produce new seedling varieties of one's own, by hybridizing and other mysteries of the priests of Flora, is indeed the highest pleasure and the deepest esotericism of the art. The impregnating them is to venture within the very secrets of

creation, and the naming them carries us back to one of the highest privileges of our first parents. The offspring becomes our own ἔργον; which, according to Aristotle, claims the highest degree of our love. We should feel that, in leaving them, we were leaving friends, and address in the words of Eve,

> 'O flowers,
> My early visitation and my last
> At even, *which I had bred up with tender hand*
> *From the first opening bud, and gave ye names,*
> Who now shall rear ye to the sun, or rank
> Your tribes, and water from the ambrosial fount?'
> *Par. Lost*, xi.

We cannot but admire the practice of the Church of Rome, which calls in the aid of floral decorations on her high festivals. If we did not feel convinced that it was the most bounden duty of the Church of England, at the present moment, to give no unnecessary offence by restorations in indifferent matters, we should be inclined to advocate, notwithstanding the denunciations of some of the early Fathers, some slight exception in the case of our own favorites. We shall not easily forget the effect of a long avenue of orange-trees in the Cathedral of St. Gudule at Brussels, calling to mind as it did the expression of the psalmist—'Those that be planted in the house of the Lord shall flourish in the courts of our God.' The white lily is held throughout Spain and Italy the emblem of the Virgin's purity, and frequently decorates her shrines; and many other flowers, dedicated to some saint, are used in profusion on the day of his celebration. The oak-leaf and the palm-branch have with us their loyal and religious anniversary, and the holly still gladdens the hearts of all good Churchmen at Christmas—a custom which the Puritans never succeeded in effacing from the most cant-ridden parish in the kingdom. Latterly, flowers have been much used among us in festivals, and processions, and gala-days of all kinds—the dahlia furnishing, in its symmetry and variety of colouring, an excellent material for those who, perhaps, in their young days sowed their own initials in mustard-and-cress, to inscribe in their maturer years their sovereign's name in flowers. Flowering plants and shrubs are at the same time becoming more fashionable in our London ball-rooms. No dread of 'noxious exhalations' deters mammas from decorating their halls and staircases with flowers of every hue and fragrance, nor their daughters from braving the headaches and pale cheeks, which are *said* to arise from such innocent and beautiful causes. We would go one step further, and replace all artificial flowers by natural ones, on the dinner-table and in the hair. Some of the more amaranthine flowers, as the camellia and the hoya, which can bear the heat of crowded rooms, or those of regular shapes, as the dahlia and others, would, we are sure, with a little contrivance in adjusting and preserving them, soon eclipse the most artistical wreaths of Natir or Forster, and we will venture to promise a good partner for a waltz and for life to the first fair *débutante* who will take courage to adopt the natural flower in her 'sunny locks.'

THE CULTURE OF HEATHS.

BY WILLIAM SAUNDERS, NEW-HAVEN, CT.

I was pleased to observe, in a late number of the Horticulturist, some allusion to this family of plants, relative to the introduction of some of the rare and superior varieties. There is probably no class of green-house plants that commend themselves so much to our attention as this. The varieties are so numerous and varied, both in foliage and flower, even when they are not in flower; the plants have a lively appearance, on account of the diversified beauty of their foliage, and their neat and bushy habit; and the flowers are all very interesting—some of them, indeed, of most exquisite beauty and delicacy. A selection judiciously made, and properly

managed, will flower in rotation all the year; and even in the most limited collection of plants, there are none that will give more satisfaction to the cultivator than the heaths.

Having had some experience in their management, I venture to send the following remarks on their culture, hoping that they may be useful to some of your readers. Not that I have any new or novel system to advance, or wish to set up my practice, as a model for experienced cultivators; but only that I would describe a mode of practice which has been attended with tolerable success, with the hope that this beautiful tribe of plants will receive more attention than it has hitherto done, and that heaths should be held in the estimation among flowering plants that they so worthily deserve.

Heaths are widely dispersed over the eastern hemisphere. In Britain, more particularly in the picturesque scenery of Scotland, they are very abundant, and hold a prominent place in the native flora of the country; the *heather bells* being held in high estimation by all lovers of pastoral beauty, and no less by their associations than their intrinsic charms, adding to the beauty of the varied scene. To the Cape of Good Hope, however, we are indebted for the splendid varieties cultivated in our green-houses. There, they have a wide altitudinal range, which accounts for some of the varieties being hardier than others; a few degrees of frost being fatal to some, while others will endure it without injury. For distinction, the strong free growing roots are termed soft-wooded; these make growths eighteen inches or more in one season. Those that are less robust, making seasonal growths of only a few inches, are designated hard-wooded; the latter are, in general, most beautiful, also requiring more care in their management than the former. But there is nothing to deter any lover of plants from attempting their cultivation, although the contrary is very generally supposed.

The most important subject to be considered, is securing proper soil. Without this, all attempts to success will be futile. No attention will compensate for the plants being potted in unsuitable material; and here I cannot help remarking, that the recommendations of some writers on this subject—the mixing together of minute portions of different kinds of earths and manures for the growth of one kind of plant—savors too much of mysticism for me, inasmuch as everything truly useful in nature is characterized by simplicity, rather than complexity. I have often thought that such recommendations have a tendency to hinder, rather than advance, the purposes for which they are intended. I have seen prescriptions of this nature, which, if plants succeeded at all in them, could only be accounted for on the grounds, that the deleterious quality of some of the ingredients was neutralised by an opposite quality in others.

Heaths, like the Azalea and Rhododendron, make very small, hair-like roots; and where these latter are growing naturally, will be found a good locality to collect soil for the artificial cultivation of the former. This soil will be found full of decaying organic matter. Take up a handful of it, and you will find a mass of thickly grown fine fibres, feeling like a bunch of moss. Examine it, and you will see that it is chiefly composed of a black debris of leaves and sticks, thickly interwoven with the roots of surrounding vegetation. An inch or two only of the surface should be taken; all below that is generally inferior,—the organic matter in it being too much decomposed.

Where this deposit cannot be obtained, a good substitute will be found in turves from old pastures, cut thin, collected in dry weather, and piled in a heap two or three months before using, so that the vegetation on it may be slightly decomposed. Both in its chemical and mechanical properties, such a soil is nearly all that can be wished. In preparing it, however, it is better to chop it up rather fine, securing a proper mechanical texture by the admixture of coarse sand, broken charcoal, or even a few rubbly pebbles; or broken pots-herds, I have used with advantage in keeping the soil open, to allow free admission for atmospheric gases,—an essential point to be kept in view in the cultivation of all plants, more particularly those in pots; for they are then entirely dependant on the cultivator for those conditions which they receive in their natural habitats. Such a soil as here recommended, kept sufficiently open by any of the above mentioned ingredients, is easily penetrated by air, thereby increasing its temperature, and facilitating the decomposition of organic matter; during which process, various healthful gases are supplied to plants. In a soil thus conditioned, experience has convinced me that *all* kinds of green-house plants can be grown to great perfection, if properly managed in other respects.

Preparing the pots is also a matter of some importance. These ought to be thoroughly clean, and properly drained. This is effected by placing a piece of broken pot, with its convex side downwards, fitting closely to prevent the ingress of insects. Over this lay a stratum of the same material, varying in depth from one inch to three, according to the size of the pot. Large pots are often drained by inverting a small one in the bottom, and filling around it with charcoal, or whatever is used for the purpose. Over this put a thin layer of moss, or the rougher parts of the soil, to prevent the smaller particles being washed down among the drainage.

As regards the best time for shifting Heaths, those who are adepts in practice, and look after their plants themselves, will be guided by the health and vigor of growth of the plants. In all cases, however, where the principles of vegetable physiology are imperfectly understood, I would recommend the early part of spring. If the plants are thrifty, with foliage of a dark green healthy hue, and when turned out of the pots, presenting a good portion of healthy roots, they will be in good condition for a liberal shift. If, for instance, they have been growing in 4-inch pots, they may be transferred into 8-inch sizes, and so on in proportion.

On the other had, if the plants appear sickly, with the points of the shoots of a yellowish colour, and, when turned out, present no appearance of healthy roots, it will be necessary to remove as much as possible of the old soil. In all likelihood, this has been caused by improper drainage; and no plant will flourish well in a soil soured by stagnant water, even under the best counterbalancing treatment. In this case, pots of the same size that they were previously growing in will be large enough until they make healthy roots, when they can be shifted into larger, with reasonable hopes of success.

Although transferring a plant from one pot to another may in itself appear a very simple operation, yet there are various particulars connected with the proper performance of it, on different plants, which require strict attention. On this subject I may, at some future time, offer a few remarks. To proceed with those under consideration, having everything in readiness,

fill in as much of the fresh soil as will bring the plant to the desired height in the pot, leaving plenty of room for watering, and taking care not to cover any of the stem. The collar of the plant, that is, where the roots and stem proceed in opposite directions, should never be covered with any depth of soil. Deep planting is a certain cause of failure; and I am of opinion, that if this single circumstance was properly attended to, in out-of-door planting, we would not hear so many complaints about canker, &c., in fruit trees. As the potting proceeds, press the soil regularly all round; giving the bottom of the pot a rap on the potting table will assist in consolidating the soil; and if it is rather dry than otherwise, and properly prepared, there will be little danger of making it too firm for these plants, if nothing harder than the fingers be used in compressing it. If the pots are large, and the plants likely to remain in them for two or three years, it is a good plan, while potting, to introduce a few strips of charcoal, reaching from the surface of the soil to the top of the drainage. This will at all times secure an equal distribution of water in the mass, and act as a reservoir for nourishing gases. When the potting is finished, give a good watering, and if a few potsherds are laid on the surface, to run the water upon, the fresh soil will not be disturbed. Always use rain water if possible, and apply it only when the plants really require it. I apprehend there are more plants lost from injudicious watering, in combination with imperfect drainage, than any other cause. No plant can be kept long in a healthy, flourishing state, where a routine system of dribbling a little water daily is persevered in, whether the plant require it or not. When water is applied, let it be given in sufficient quantity to permeate the whole mass thoroughly; otherwise the surface will be moist, while the rest of the soil is quite dry, and, of course, the roots injured. During summer they must be kept cool; if in flower, in the green-house, an agreeable temperature will be easily maintained by shading from the sun and applying moisture. But on this subject, the well timed remarks of Mr. Leuchars makes it unnecessary for me to enlarge. Those not in flower will be easier managed if placed out of doors, and kept in a frame. This may be of the rudest construction; four boards nailed together so as to form a square, will suit admirably. This box or frame should be elevated an inch or two from the ground for better circulation of air. The pots should be plunged up to the rim to keep the roots cool. Over this, erect a temporary frame-work, four or five feet high, on which a thin canvass, attached to a roller, may be moved up and down for the purpose of shading. They must be constantly shaded from bright sun, and fully exposed at night. They will be benefitted by a slight shower occasionally; and during very heavy rains, the blind being let down will preserve the plants from injury. Syringe them occasionally in dry weather, and keep up a kindly humidity by frequently sprinkling round the frame, and between the plants.

During their growth, attention must be given to the ultimate shape of the plant. The slow growing varieties require little help in this respect; stopping-back any luxuriant side shoots, and keeping a distinct leader, are the main objects. The strong growing kinds look well when trained in a pyramidal fashion. To effect this, select one of the strongest shoots as a leader, and secure it to a stake, encouraging it, as much as possible, by pinching-back all the side shoots. When trained in this

manner, with dense foliage from the pot upwards, the flowers are shown to great advantage.

About the middle of October they may be overhauled, dead leaves picked off, and the pots washed, preparatory to taking them into the green-house. Here they must be placed by themselves in the coldest part of the house. They will now require very little water—merely enough to keep them from flagging, and give a little fresh air every favorable opportunity.

During winter use no more fire heat than is absolutely necessary. Great harm is often done by keeping a high artificial temperature at this season, especially at night; and very frequently is the highest artificial heat maintained on those nights when the external temperature is lowest, and the thermometer kept as high as during the day. It is more in accordance with nature, to raise the temperature during the day sufficiently high to allow a diminution of heat during the night, so that the plants may participate in the change. It is during this—their temporary cessation, caused by the absence of light and heat—that they are enabled to recover their elasticity and vigor, and to replace the loss of gaseous matters, which were given off during the light of the preceding day. Where the house is heated by a hot air flue, it is necessary to have troughs of some description, filled with water, placed on the covers to modify the aridity of the air by evaporation. Hot-water pipes should also have evaporating pans fitted on them, and kept supplied with water; for although they radiate heat at a lower temperature than flues, it is also of a drying nature, and prejudicial to vegetation. A maximum heat of 45 degrees, and a minimum of 35 degrees, will be amply sufficient for green-house plants during the short days of winter. In the absence of light, it is hurtful to urge any plant to grow by the mere forcing power of heat. Such growth can never be vigorous, nor produce satisfactory results.

As the season advances and the light increases, the plants will require more water and air, always avoiding cold cutting winds, admitting air first by the top lights, and keeping the house close during foggy, dense weather. The close growing Heaths are very subject to mildew. This is got rid of by dusting the parts affected with sulphur, and washing them clean with a syringe a day or two afterwards. I have said nothing about their propagation, or raising seedlings. Should you think it desirable, I will be happy to give my experience on these matters also.

WILLIAM SAUNDERS,
Gardener to Wm. Bostwick, Esq.
New-Haven, Conn., Aug. 16, 1849.

THE VINERY AT CLINTON POINT.

[SEE FRONTISPIECE.]

OUR frontispiece is intended to convey to the reader some idea of the very complete vinery at Clinton Point, the residence of our neighbor, PHILIP S. VAN RENSSELAER, Esq., near New-Hamburgh, on the Hudson.

The effect of this vinery is so excellent, and its adaptation to the intended purpose so complete, that we consider it the best model for a curvilinear house that we have yet seen. The general plan is not unlike that of many vineries near Boston; but in simplicity, and nicety of construction, it

far surpasses all the curved roofed vineries that we have seen there, and was designed by Mr. VAN RENSSELAER after a thorough inspection of the best vineries in the country.

The house is built entirely of wood; and while it has an exceedingly light and pleasing effect, is at the same time very strong and durable. The view of the interior, given in the frontispiece, (in which we have omitted a large portion of the vines, to exhibit the construction,) shows that the roof is supported by three rows of light posts, to which, in a very simple manner the effect of clustered columns is given.

The house rests on *locust* posts, which are as durable as a stone wall, while they offer no impediment to the free passage of the roots of the vines through the border on the outside or inside of the house.

In the ventilation of this vinery, Mr. VAN RENSSELAER has especially improved on other structures of the same kind, which we have seen elsewhere. The current of air follows the same course as usual in houses of this kind; that is, it enters at the openings in the low wooden wall below the sashes, (boards hung on hinges,) and escapes at the movable sashes at the top of the roof; a mode which passes a stream of fresh air, entering at one's command, over the whole growth of the vines, from the floor to the topmost branch.

These movable sashes are swung on centre pivots; a mode allowing them to be more easily opened and shut than sliding sashes. Usually, sashes of this kind are opened and shut by means of *cords*, which, owing to the expansion and contraction of the material, effected by the atmosphere, is found a most imperfect mode.

Mr. VAN RENSSELAER has ingeniously obviated this difficulty, by employing a forked iron rod, (fig. 80) *a*, for opening and

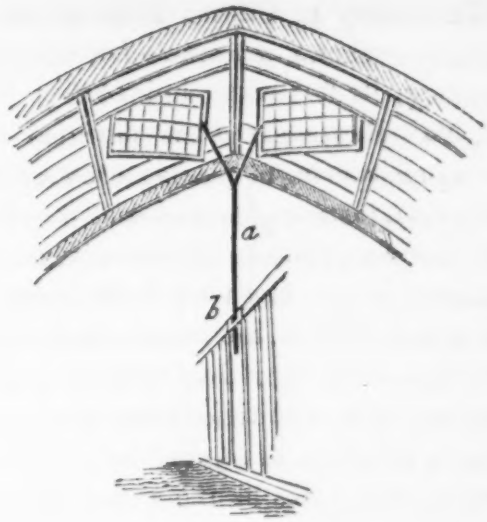

Fig. 80.

closing the sashes. This rod is about half an inch in diameter, plays, perpendicularly, up and down, through an iron socket, *b*, in the top rail of the trellis in the middle of the house. There is a thumb screw in this socket, which presses against the rod and fixes it at any desired height. Each branch of this ventilating-rod, where it is divided at the top, is only about a fourth of an inch in diameter; so that the fork is so elastic as to give it sufficient play to allow the sashes to rise and fall easily and freely, while, by means of the thumb screw, they can be held firmly in any position.

We have omitted to say that this is a "cold vinery;" that is, one in which no fire heat is employed,—a species of structure every day coming into greater favor in this part of the country. To grow the foreign grape in the highest perfection, it is only necessary to have the temperature of the house at that command which the full sunshine, and the admission or exclusion of the outer air, gives, without resorting to fire heat; and so abundant and powerful is the sunshine in this latitude that the Muscat of Alexandria, which in many seasons requires fire heat to mature perfectly in Boston, ripens regularly and fully on the Hudson in a cold-house.

The vinery at Clinton Point is, as our engraving shows, a span-roofed house, 80 feet long, 18 feet wide, and 14 feet high. Mr. VAN RENSSELAER has deviated from the usual course, in placing it on a north-and-south, instead of an east-and-west line; and the result shows how wisely, for this climate, as the vines on both sides are equally exposed to the longest influence of the sun,—enjoying it from rising to setting; while at the hottest time of day they are all far less likely to be injured by any excess of heat than vines on the sunny side of a house facing directly south.

We have, so far, only spoken of the vinery itself; but, as we are always inclined to judge of the tree by its fruit, we may add that all that we have said of the merits of the structure, is fully sustained by the extraordinary growth of the vines, and the magnificent grapes which they have produced this season. We have only seen them equalled in one instance, that of G. R. RUSSELL, Esq., of West Roxbury, whose fruit bore off the palm at the Massachusetts horticultural exhibition last year.

The vines were only planted a year ago last July, and, of course, have not been allowed to bear a full crop this season; but the strong, vigorous, healthy wood with which they have filled the house, and the wonderfully fine clusters of fruit, of the highest flavor, which they have produced, show the advantages of the best structure and the best culture. The *border* in which they grow affords, indeed, a supply of food which explains, in part, the extraordinary growth of the vines,—since it runs under the whole house, and extends over a wide space all round it, being 80 feet wide and 120 feet long, by nearly 3 feet deep, and very thoroughly manured.

The house contains a very complete collection of grapes, obtained from Mr. BUIST, of Philadelphia, and we were glad to learn that every vine had proved correct. Besides the standard varieties, we noticed *Deacon's Superb*—perhaps the most beautiful of all new white grapes,—the clusters very large, berries oval, and closely set. *Reine de Nice*, (not ripe when we saw it,) was also laden with large clusters of very handsome fruit. *Xeres*, another white grape, also attracted our attention by the size and beauty of its clusters; while some bunches of the *Palestine* grape, more than 2 feet long, made us comprehend the biblical account of the grapes of the land of Canaan.

THE MOUNTAIN ASH AS A STOCK FOR PEARS.

BY S. L. GOODALE, SACO, ME.

A. J. DOWNING, ESQ.—*Dear Sir:* As I do not recollect ever to have met with any detail of *definite results*, from grafting the pear upon the Mountain Ash, I propose to give a sketch of a few experiments which have been partially successful.

Some years since, having a tree of the common American Mountain Ash which might have been planted, originally, as an ornamental tree, but had become stunted, mossy, and anything but ornamental, I thought to cut it down; but when about to execute the purpose, recollecting that pears had been grown on this stock, I concluded instead, to graft it, and accordingly did so,—inserting scions in every limb. Deem-

ing it a matter of trivial consequence, no care was taken to select choice varieties, but used such as were nearest at hand; nor were the scions labelled. They all grew—some very rapidly; and a number of the largest were blown out by high winds in the course of the season. The spring succeeding, the branches, bereft of their scions, were supplied with a new set, which grew nearly as well as the first. These I protected with a rod, tied on by way of splint.

The same year one of the scions, inserted the previous spring, bore a cluster of fine pears, three of which were unusually large and handsome, and proved to be the Vicar of Winkfield. The same scion the next year bore eighteen, and the fourth year between fifty and sixty pears. The present year most of the scions are bearing fruit—some very abundantly.

It is evident, by a glance at the tree, that the different varieties are not alike suited with the stock; for while some seem quite at home, making each year a good growth and bearing heavily, others have grown but little since the first season, and bear moderately; others still appear sickly, neither growing or bearing, while a few have died out. And it may be worthy remark, that wherever one has *died* the limb also has perished, and looks as if *poisoned;* but the limbs from which scions had been removed by accident remained healthy, throwing out side shoots, and could be regrafted.

With regard to the quality of the fruit produced, there has been as much variation as in the general appearance of the scions. The Fulton was very much as usual on pear stocks; Flemish Beauty above usual size, and very good; Doyenné somewhat less than medium size, perfectly fair, and of exquisite flavor. I am not sure whether this is the White or Gray Doyenné. The scion was cut from an imported tree on quince, the fruit of which has a brilliant red cheek and some russet; but on the Ash, is of a delicate straw colour, with no russet. [The Gray Doyenné is all covered with russet, like the Fulton. Ed.] Vicar of Winkfield will average usual size, but varies much; some being very large, fair, and of regular form; others as large, ill shaped; and some smaller, and deviating in many directions from its usual appearance. With all care in ripening, they proved juicy indeed, but coarse, and not over third rate in flavor.

These are all which I have been able to recognize with certainty. A few have fruited and fallen off before ripening. Several kinds, evidently of winter pears, have been produced. One might have been Easter Beurré; it certainly was as worthless. All were meagre, ill shaped things, and defied every attempt to ripen them.

The tree which was the subject of these experiments, stands near the north end of my house, in grass ground; and the soil is the solid clay which forms the subsoil of the spot, and was thrown out in digging the cellar some twenty years ago. It is from 16 to 18 feet in height, and about 5 inches in diameter, and has never been manured, or even dug around.

Last autumn I budded small trees in the nursery, raised from seeds of the European Mountain Ash, with a variety of pears. All looked equally promising when headed down; but some would not start at all, others grew a little, and some very well. Of these, Glout Morceau and Vicar of Winkfield did best,—making 3 to 5 feet growth the present season.

Within a week or two past, I have budded several hundreds with more than fifty

varieties, in the hope of ascertaining something farther of its comparative value as a stock for the pear. My attempts to raise seedlings from the native variety have hitherto been unsuccessful; a small insect devouring the plants as soon as they appeared above ground.

I am satisfied that fair, handsome, and delicious pears can be produced on the Ash, and in soil uncongenial both to the pear and quince stocks; but whether it be preferable to work large trees in the limbs, or small ones in the nursery, whether to employ the native or foreign variety, or if there be any difference in them *as stocks*, what varieties are best suited to the one or the other, and upon what soils either will best succeed, are matters upon which I would gladly be enlightened, and think the subject offers a promising field for investigation.

S. L. Goodale.

Saco, Me., August, 1849.

HINTS FOR THE FRUIT GARDEN.

BY R. ERRINGTON.*

Gathering and Storing Fruit.—As matter appropriate to the season, we will endeavor to offer a little sound advice on this head; a subject which concerns equally the humblest cottager and the most wealthy proprietor.

The most important feature to consider at the outset of the question is the fact that all unripe fruit, such as apples and pears—fruit, we mean, in which the ripening process is not quite complete—ferment exceedingly when first housed; and that this fermentation, after spending itself for a fortnight or so, gradually subsides, and by the time the fruit has been a couple of months or so in the store-room becomes imperceptible, although it never entirely ceases as long as any moisture remains. The first requisite in fruit gathering is, of course, care in the handling. No one can suppose that an apple torn from the tree at random, leaving its footstalk behind, will possess equal keeping capabilities with one slipped off with that peculiar twist well known to practical men, and which saves the fruit from abuse. In almost all cases, the fruit requires lifting slightly afterwards, and good gatherers generally take hold of the bough or branchlet with the left hand to steady it, whilst with the right they gently raise the fruit upwards; this, if the fruit is as far advanced towards ripening as it ought to be, will generally cause the fruit to detach itself. We do not mean to say that those who have extensive orchards, and who have, perhaps, many hundred bushels of apples to collect, can pursue such a nice operation through the whole of their trees; these have not the same object in view as the amateur or cottager, and make use of expediencies which would be quite incompatible with the objects of small gardeners. We, therefore, merely point to the course necessary to be pursued by those who look forward to a nice succession of fruit through a tedious winter and protracted spring, whether for home consumption or for sale.

Many instruments have been invented whereby to facilitate the gathering of fruit, and some of them will be found very useful helpmates to the amateur especially, who is in many cases not so well drilled in such rule-of-thumb matters as the ordinary gardener. Amongst them we would particularize a most convenient ladder, which is equally adapted for pruning standard trees, or for gathering their produce; the accompanying sketch will convey some idea of it. It is 12 feet in length, and may be thus described:—At A A are iron loops, by means of which the legs, C C, work in every direction, and by which they can be stretched to a proper distance: these legs fold up to the ladder when about to be removed,

[* From the Cottage Gardener, London.]

or when not required during use. The sharp point, D, enables it to be pushed up among the branches, and is useful for the operator to take hold of. B B are cords to act as an additional safeguard against the legs moving; they are, however, scarcely necessary.

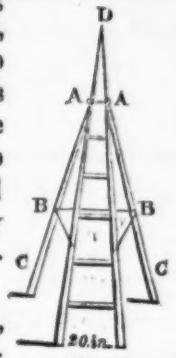

Fig. 81.

In addition to the above, what is termed the *Orchardist's Crook* is used by some. The use of this implement is to seize the branch with one hand and draw it to the operator, and then, by putting the sliding piece over another branch, such branch is held in that position by the obliqueness of the line of pressure, which prevents the sliding piece from moving, thus leaving the operator free to use both hands in gathering the fruit. The following is a sketch of the implement.

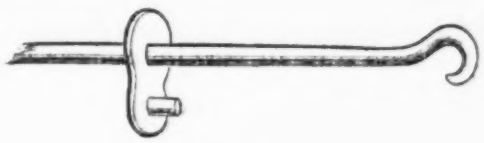
Fig. 82.

Some other modes exist for facilitating the gathering of fruit; but they, for the most part, have fallen into disuse, it being pretty well known that, after all, the chief point is careful handling. An earnest, active gatherer, with a long ladder, a pair of steps, and a hooked stick, will seldom call for more implements: a little off-hand sharpness, with much activity and care, will generally accomplish all that is needed.

Baskets.—We must now come to the really practical part of the business—the getting the fruit off the trees, and storing it securely. The mode of gathering must depend in some degree on the character of the tree; thus, for instance, a dwarf-trained espalier needs but a common hand-basket—steps or ladder are scarcely needed. One thing, however, is necessary, provided more than one layer is put in the same basket, and that is cap paper: we place a sheet between each two layers in the case of choice dessert fruit. In ordinary cases we use hay, or, it may be, rhubarb leaves, but we dare not recommend them; they are generally expedients forced on us by the hurry of the moment. To be sure, where there is a very small amount of fruit, and it is unpacked immediately, such will suffice; but if, unfortunately, baskets should stand a day or two through pressure of business, the hay will impart a musty flavor, and the leaves in decaying corrode the skin of the fruit.

In gathering from trees eight or ten feet in height a pair of steps becomes necessary; ordinary steps, such as are used by workmen in-doors, will suffice, or those figured in our present number may be put in requisition by those who wish to have everything very complete. It is necessary in this case, where only one person gathers, to have a basket with a pothook, the straight end of which being fastened to the cross handle of the basket by a cord, the hook end may be hung at pleasure on any part of the tree. Thus equipped, an amateur may move his own steps in any direction; ascend, gather a portion in his pothook basket, descend and place them in a larger basket—using a layer of cap-paper between the strata—ascend again, and so on until the gathering is complete. With regard to huge orchard trees the case differs slightly; here business is transacted on a much larger scale; even the rude wheelbarrow is ofttimes in requisition, or even a tumbril or light cart—but these are cases not often occurring with our readers; suffice it to say that much of the business is here transacted by means of very long ladders, and long hooked sticks occasionally, with sometimes a loud halloo of "Bill, mind that ladder don't slip!" when Bill, to show the amount of his philosophy, will exclaim, in return, "Ne'er mind the ladder, lad—get the basket emptied, and let me have it! I can't get on for want of baskets!"

Well, now we have gathered a lot of apples or pears, as the case may be, and what are we to do with them? This brings us to the storing part of the question. Before, however, proceeding in that part of the business, we feel bound to advert to the symptoms of ripeness.

Symptoms of Ripeness.—This is a broad term to deal with, and no standard that

can be set up will apply equally to all fruits.

We will commence with the *apple;* here we must at once throw them into two classes, viz., table fruit and kitchen fruit. In the former, it is absolutely necessary that they remain on the tree until they have acquired that depth of flavor for which alone they are esteemed, and which constitutes them a separate class. Kitchen apples for long keeping, on the contrary, we would gather a little short of that degree of ripeness. There are two acknowledged criteria of ripeness universally admitted in the apple; the first, that coloured pips or seeds are an indication; the second, that on lifting the apple slightly up it parts tolerably easily from the tree without pulling hard at it. The last is mostly taken as the test, and we scarcely know of any better criterion. Much allowance, however, must be made for the kind of fruit; such as are inclined to be dry or mealy should be gathered somewhat earlier; those of a subacid character, and abounding in juice, should be allowed to become tolerably mature on the tree.

Pears.—More skill is necessary in pear than in apple gathering; these are so various in character, that the utmost care is necessary. We would, in most cases, advise the cutting a fruit in two, and judging by the pips; these should be about three parts coloured in the majority of cases. Any kinds, as the Easter Beurré, which are apt to become insipid, should, by all means, be gathered much earlier. Most of the Flemish kinds, especially such as the Beurré Rance, the Beurré d'Aremberg, the Glout Morceau, the Passe Colmar, the Winter Nelis, the Ne Plus Meuris, &c., should hang until late, unless on a south wall. We have known the Althorpe Crassane to excel all the pears in the garden, but in the majority of seasons it becomes mealy prematurely; this kind is so evidently bred from the old Swan's-egg, that it is folly to place it against a wall, unless a very cool one; such as this and the Easter Beurré, moreover, do not require that amount of sunlight which such as Winter Nelis and Passe Colmar flourish in; and for that reason we advise the summer spray to be left a greater length in order to shade the fruit.

Stone Fruit.—Few directions need be given as to these; almost every possessor of a garden, however limited, knows when to gather a peach, a plum, or a cherry. We may observe, however, that double care is necessary in handling these tender things; as for peaches, it is almost impossible to place two layers in a basket without serious mischief. We gather in flat bottomed baskets, placing a layer of soft "rowen" hay (second or third cut,) in the bottom of the basket—a single layer, as before observed—and these are carried at once to the fruit-room, where they are carefully placed on cap-paper. It requires nice judgment to ascertain when a peach is fit to gather; many persons let them fall on a prepared bed of litter or hay. This, indeed, is the old plan, and certainly not to be altogether condemned; we, however, prefer gathering them, relying on long experience, and depending much on the feel, as to whether they seem inclined to leave the tree when handled rightly. Colour is by no means a criterion; very pale peaches are sometimes more ripe than those which are high coloured.

Modes of Storing.—These are various. In former days it was deemed essential to ferment apples, by placing them in conical heaps covered up. We opine that few will follow this practice now. We are, indeed, at a loss to conjecture what could have led to the practice; for, as to keeping fruit, they perspire, in the main, too fast: it is this very perspiration which wars against the keeping properties. To be sure, a certain amount is, doubtless, necessary; probably they could not undergo the chemical change necessary in order to give them a full amount of flavor without a continuous action of the kind. Be that as it may, our main business with keeping fruit is to arrest this principle in degree, and to this end the fruit-rooms of modern times are not required to be so excessively dry as formerly; added to which, darkness is well known in these days to promote the keeping of many kinds of fruit. It appears that light acts in conjunction with an advance of temperature in hastening the decay of fruit; and that even *light alone*, under all circumstances, has a tendency to promote perspiration or evaporation in vegetable tissue.

A uniform temperature is essential, and that a low one: we should say a steady temperature of from 40° to 50° is excellent as a general principle. Many of our Flemish pears, however, will not attain perfection under this degree of cold, for such we must term it. For these pears a special provision must be made late in the autumn, of which we shall soon have more to say; in the meantime we take leave of fruit gathering by observing that the thinner apple or other stores are placed the better. When people throw them in heaps in these days, it may be considered a matter of necessity; much, therefore, depends on the convenience the parties possess. We shall return to this subject in due time for further operations. R Errington.

FOREIGN NOTICES.

Torenia Asiatica, discovered by Toren, a Swedish clergyman, in China. When first I saw the flower, with its marbled-like, blended colours of blue, purple and light lilac, I thought it was among plants a gem of the purest water. It belongs to the 14th class and 2d order of Linnæus, and the natural order Scrophuiariaceæ, and thus is somewhat allied to the beautiful and well known Maurandya. The blossom is tubular, and monopetalous in its corolla, which is generally divided into four segments. The two upper stamens are conspicuous in the throat of the flower, joined together so as to form a beautiful arch, while the anthers, cohering and projecting, might convey the idea of an ornamental architectural key-stone.

Soil.—It flourishes in equal proportions of loam and peat, with a dash of silver sand. The soil must be rough, and the pots well drained. A few pieces of charcoal would be useful for both purposes.

Culture.—If kept a second year in the same pots, the plants will bloom profusely, if, after examining their drainage, they are top-dressed with equal proportions of such soil and dried cow dung. A plant thus managed exhibited a profuse mass of bloom in the verandah from the end of April to the end of October last year. It was then removed, and as the aphis had begun to nibble it a little it was not preserved any longer. Having flowered so freely, I resolved upon saving a few more large plants that had been cuttings in 1847, but unfortunately in resolving to harden them well, they were placed on the floor of a vinery, and got more cold than was agreeable to them. I find that, even in attempting to keep them in a dormant state, the temperature should not be below 40°, and after the month of January they should have a little more, and all the light you can give them. I find, also, that many tender plants if inured to it gradually will stand much more cold before the day begins to lengthen than they will do afterwards. This fact is of importance to be known to those with limited means, who yet may have a forcing-house of some sort, which they set in motion at the beginning of the year, as *there* many tender plants may get a lift for a couple of months. The *Torenias* I have now in bloom occupy and completely conceal trellises between three and four feet square; others are trained on circular trellises, others as bushes, three feet in height and three feet through. A young larch or spruce tree, peeled in the spring, with all the twigs peeled and retained, makes a nice support for all such plants to ramble over. Grown in baskets, and suspended so that the long shoots hang gracefully down, studded with blossom, is also a very interesting method of treating them.

All these plants have stood in the glass-protected verandah for nearly three months, beautifully in bloom, but not equal to the old plant formerly alluded to. If the autumn prove mild, they will remain to the middle or end of October, and then, if I could afford them room and heat, they would make fine objects all the winter; and, fresh potted or top-dressed in spring, would be ready for another summer's campaign. All of them were cuttings at this time last year, potted into sixty-sized (three-inch) pots in September, removed with many other things to the shelf of a pine stove at the end of October, kept in a temperature of from 55° to 60°, stopped to make them bushy, shifted into a size larger pot in the end of February, moved into 12-inch pots in March, watered carefully so as not to deluge the unappropriated soil until the roots began to work their way into it, then removed under the shade of vines that had shortly before shown fruit, trained, and from thence taken to the verandah in the end of May.

Propagating.—I am putting in a few cuttings just now; they are easily struck either with or without bottom heat, but will root quicker and more surely if placed in a cold close pit for a week, and then plunged in a little bottom heat. But why take off cuttings now, instead of preserving an old plant, and waiting until spring? Simply because, without entering upon the physio-

logical bearings of the question, autumn-struck cuttings generally bloom more profusely than those propagated in spring. Without making the Torenia a peg on which to hang general deductions, several things must be attended to for obtaining large plants in such a short time.

1st. The plants were grown very fast under the partial shade of the vines; the flowering principle was brought into operation when exposed to more light. It should always be screened from very bright sunshine.

2d. The one-shift system, or nearly so, must be resorted to, and rough and lumpy soil be used. Those who shift their plants frequently, and use fine soil, must have *patience* in waiting longer for a large specimen.

3d. Watering must be given with judgment. If you cannot water them yourself, and must depend upon an assistant, who gives *everything* in turn its regular pouring from the water-pot, then you had better content yourself with frequent shifting. Liquid manure may be given *sparingly* the first season, *liberally* the second.

4th. The difference of treatment, as respects stimulants in the first and second year, is based upon the principle, that if applied the first year there would be fine growth but little flowering. After the comparative standstill treatment of winter, there would be a great tendency to blooming the second year, and, therefore, to maintain for a long period that blooming process, growth by stimulation must be continued. *R. Fish. Cottage Gardener.*

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Bouquets.—Mr. Richard Payne Knight, one of our most judicious writers upon "The Principles of Taste," has observed that "when many sorts and varieties of flowers are skillfully arranged and combined as in the flower-pots of Vanhuysum, they form, perhaps, the most perfect spectacle of mere sensual beauty that is anywhere to be found." At page 193, we gave a few hints how flowers might thus be "skillfully arranged and combined," but such of our readers as can refer to one of Vanhuysum's paintings of flowers will there see "philosophy teaching by example." They will observe that, in grouping his flowers, this most exquisite painter usually placed the brightest in the centre, gradually decreasing in intensity of colour from that centre to the edges of his groups. They will also find that in each of these lovely nosegays there is *one* prevailing colour. If it were not so, the group would appear patchy or spotty; and in forming our bouquets we shall find the importance of following the same rules. If a spray of bright crimson roses be in the centre, paler roses should be nearer to it on either side as well as above; if geraniums prevail in our group, the scarlet should be in the centre, and the lighter tinted varieties more distant from it, according to their hues.

One correspondent asks us "which we think should be the most prevalent colour in bouquets?" But it is impossible to lay down any rule for this. All are beautiful, and the decision of which is the most so, varies with the taste of the judge, and that taste is influenced by such circumstances as associated colours, climate, and seasons. Thus, we thought, when about to settle for a time within the tropics, that green would be a cool and refreshing colour for the eye to rest upon; but, so far from this being the case, we found that crimson was the most pleasing for the furniture of our rooms. In some degree, this arose from the excess of that cold absence of color—white—which predominated in the objects around, from the costume of the native servants to the entire walls of the apartments. Yet it is the same we think, even in England. Here, a bouquet of the brightest flowers is more agreeable to the eye in our drawing-rooms than one of paler tints during the intense heat of a summer-day's noontide.

On these points we have received the following letter from a correspondent evidently accustomed to practice what good taste dictates:—

"One of the most beautiful bouquets I ever saw was composed of a mass of scarlet geraniums interspersed with fairy white roses, and surrounded by half-blown double white camellias. A very pretty bouquet for mourning may be formed of white flowers surrounded by double violets. No bouquet is good without a rich green and a dead white. The flowers should be arranged in masses. For instance, gather myrtle for the green, scarlet geranium, a large tea-scented rose or two, a gardenia or Italian jessamine (if not come-at-able, some common jessamine,) some golden calceolaria, and a bunch of nemophylla insignis or blue salvia, and we have the three primitive colours at once, which cannot fail to be pleasing to the eye, whether in painting, needlework, or the furniture of a room, in fact, in every artificial arrangement of colours.* I have never been able to make a *small* nosegay look well where purples and lilacs were introduced, unless all reds and blues were excluded. In a large vase, of course, the compound colours may be separated from the primitive, and look extremely well.† The flowers I have named are selected because they are found in every garden. *Crassula coccinea* would be a splendid substitute for the geranium; dwarf magnolia for the rose, and blue achimenes for the salvia. The plumbago larpentæ is also a lovely flower for the purpose. A bouquet for the hand should be formed by winding a long string round the centre flower and successively round each as it is placed which will bind them firmly together."

A physician, who wishes "Vibgyor" to appear as the shadow of his name, observes in another letter now before us:—

"Transplanting plants in flower, to accomplish various desired effects in the way either of harmo-

* The three primitive colours, from which all others may be composed, are red, blue and yellow.

† The compound colours, so far as flowers for bouquets are concerned, are orange, green, indigo, and violet.

ny or of contrast, brings to my mind a work of Sir D. Brewster, on Natural Magic, or some such popular subject, where he gives very valuable hints on this matter. As well as I can remember his hints, I believe that he takes the seven old colors of the rainbow; and as a general rule, each color harmonizes with the one next before or after it, and contrasts well with the third or fourth from it.

We all know that the colors of the rainbow are arranged as follows, beginning from the inner edge of its arch:—Violet, indigo, blue, green, yellow, orange and red. These, if arranged in what may be termed "The Rainbow Round Robin," will stand thus, and illustrate the author's statement.

V harmonizes with I and R, and contrasts with G and Y; Y harmonizes with G and O, but contrasts with V and I, and so with the others.

"I have a great idea that this would make a good design for a set of flower-beds, each of one colour, and they might be surrounded by seven more, the outer set contrasting with the inner, and the centre might be white."—*Cottage Gardener.*

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THE CHRYSANTHEMUM IN CHINA.—The Chrysanthemum is the Chinese gardener's favorite flower. There is no other with which he takes so much pains, or which he cultivates so well. His Camelias, Azaleas and Roses, are well grown and well bloomed, but with all these we beat him in England; in the cultivation of the Chrysanthemum, however, he stands unrivalled. The plants themselves, seem, as it were, to meet him half way and grow just as he pleases; sometimes I met with them trained in the form of animals, such as horses and deer, and at other times they were made to resemble the pagodas, so common in the country. Whether they were trained into these fanciful forms, or merely grown as simple bushes, they were always in high health, full of fresh green leaves, and never failed to bloom most profusely in the autumn and winter.

The method of cultivating the Chrysanthemum in China is as follows. Cuttings are struck every year from the young shoots, in the same manner as we do in England. When they are rooted, they are potted off at once into the pots in which they are to grow and bloom; that is, they are grown upon what would be called by our gardeners "the one-shift system."

The soil used in potting is of a very rich description. About Canton it is generally obtained, in the first instance, from the bottom of lakes or ponds, where the Nelumbium or Water-Lily grows. It is then laid up to dry and pulverise for some months, when it is mixed with old night-soil taken from the manure tanks found in every garden. A heap of this kind, after being laid up for some time and frequently turned over, is in a fit state for potting the Chrysanthemum. Manure water, taken also from the tanks already noticed, is liberally supplied during the growing season, and its effects are visible in the luxuriant dark green leaves which cover the plants.

In forming the plants into nice compact bushes, which (with due deference to Chinese taste,) I think much prettier than animals and "seven-storied pagodas," their system is as follows: The plants are trained each with a single stem; this is forced to send out numerous laterals near its base, and these are tied down in a neat and regular manner with strings of silk thread. By having the plants clothed with branches in this way, and by keeping the leaves in a green and healthy state, the specimens never have that bare and broom-headed appearance which they often present in England when they are taken into the green-house in winter.

About Shanghae and Ningpo the Chrysanthemum is still better managed than it is near Canton; but the success which attends it may also be attributed, partly at least, to the more favorable nature of the climate, the plant being indigenous to the central or more northern parts of the empire. The system of cultivation is nearly the same; the main points attended to being those which have been noticed, namely, choosing a rich soil, planting at once into large pots; training to a single stem, and inducing it to send out numerous lateral, and giving liberal supplies of manure water during the growing season. The Chinese are fond of having very large blooms, and, in order to obtain these, they generally pick off all the small flower-buds.

In China, as in England, the Chrysanthemum flowers during the winter months. When in bloom it is in great request among the people, and is used in the decoration of court-yards, halls and temples. It is everybody's plant, and blooms alike in the garden of the lowly Chinese cottager as in that of the blue-buttoned mandarin.

Although we are indebted to China for the parents of those varieties of Chrysanthemums which now enliven our gardens during the dull months of winter, yet, strange to say, the progeny is more numerous in Europe than in China itself Some of those beautiful kinds raised by Mr. Salter in France would be much admired even by the Chinese florist. It is a curious fact, however, that many of those kinds. such as formosum and lucidum, which were originally raised from seed in Europe, are also met with in the north of China. *R. F. Gard. Chron.*

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THERE once was a time when rules for making a compost heap were as complicated as a Dutch

prescription. Our fathers thought it impossible to grow a plant without putting it into an *omnium gatherum* especially contrived for its own separate use.

"If you would grow an Auricula well," said an old gardener, "you will make your compost of ancient cow-dung, fresh sound earth, rotten leaves, coarse sea or river sand, decayed willow wood, peat, and wood ashes. You must have half the first, one-sixth of the second, one-eighth of the third, one-twelfth of the fourth, and one-twenty-fourth of each of the three others." This was declared to be of the utmost importance; no departure from the proportions was permitted. A man might as well have thought of planting Tulips on any other day than the 24th of October, or the 25th, if the 24th was a Sunday.

To this day some relics of such superstitions are traceable in gardening operations. A mysterious virtue is ascribed to particular mixtures of peat and loam and leaves and sand, or to each of these separately, or to others. We may one day endeavor to point out what there is of real, and what of unreal, in the evidence upon which such opinions are founded. For to-day we confine ourselves to PEAT.

In the belief of some very good gardeners there are certain kinds of peat possessed of such marvellous qualities that plants have but to get their roots into any one of them, and further care is needless. These qualities are popularly believed to depend upon the peculiar chemical conditions of such soil, upon a particular per centage of iron for instance, or a certain dose of some other unknown matter which chemical analysis might reveal. We believe no such thing. The different qualities of peat depend upon their physical differences and upon them alone. In one a large quantity of fibrous matter exists, in another very little; the former is, therefore, more permeable to air than the other, which may be an advantage. In another sample there is much sand instead of fibrous matter, and this constitutes a material physical difference; for such a sample will be perfectly penetrable by air and moisture without the liability to dry up which belongs to an over-fibrous material. By such differences are the various kinds of peat distinguished, and in general by nothing else of the smallest importance to plants.

It is part of the horticultural faith of many men that peat is for many purposes indispensable: and that for Rhododendrons, Azaleas, and similar "American plants," no substitute can be found. Here we find another piece of superstition. Peat is a mixture of certain decayed matters, and any other mixture of similar decayed matter in the same proportions answers all the purposes of peat. Rotten leaves, dead branches, roots of wiry grasses, fibres from the heather, or such wild plants, and a certain proportion of sand, form the constituents of the peat best suited for gardening purposes. If such a mixture can be made artificially, it will be just as good as if it had been scraped from a moor. It will have the requisite penetrability; it will be as rich in saline and decaying matters; it will as much abound in that humus or black substance from which plants so largely derive their nutriment.

The truth of this assertion will probably be questioned; for men are slow to believe that they have been carting from a distance, under the name of peat, the very substance which is wasted in the wood-yard at their door. We therefore beg to direct attention to a case with which we have been favored by a correspondent near Devizes, in which it is shown that the decayed woody matter of an old timber yard is in all respect equal to peat for the growth of Rhododendrons. We believe it to be better; because it is just as yielding to the slender roots of those plants, and much more retentive of moisture, in which they greatly delight. If the lovers of gardening would as frequently think for themselves as our correspondent has done, they would, we doubt not, discover that the indispensable necessity of peat is only one of the crop of prejudices which the progress of *knowledge* has to trample down.—*Gard. Chronicle.*

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MR. RIVER'S NURSERY, SAWBRIDGEWORTH.—An hour's ride by a fast train on the Eastern Counties Railway brings the visitor to the Harlow station, which is scarcely half an hour's walk from this nursery. The latter is situated in a pretty part of Hertfordshire, on gently undulating ground. The turnpike-road to Cambridge and Norwich bounds it to the south-east, and is 12 feet lower than the frontage near Mr. River's house. The latter is approached by three terraces, each laid out in beds of roses, and the banks on each side planted with climbing roses pegged to the ground. Standing in front of the house is a lawn sloping to the road, on which are grouped dwarf China and Bourbon roses on their own roots, also standards; and we noticed here a dome of roses, 10 feet in diameter, covered with the white flowers of different varieties of Sempervirens. This group receives no pruning beyond what is necessary to keep it within bounds, and certainly nothing could have a better effect than it had. A fine specimen of the Fern-leaved Beech, about 50 years old, grows close to the drawing-room window at the south-west end of the house, and near it several rows of 5 feet yew hedges, which serve as shelter to the young pot plants. To the right is a steep bank, consisting of hard, white clay, and turfed over. This has been formed into a bank of climbing roses, and a most beautiful bank it makes. On the top is a row of Ayrshires, Sempervirens, and Boursaults, planted 6 feet apart in a straight line; these are trained to stout larch poles, about 7 feet in height, and they are never pruned. In front, is a row of climbing roses, varieties of Sempervirens and Ayrshire, worked on short, stout stems, from 2 to 2½ feet in height. These are also never pruned; the branches are allowed to droop to the ground. In front, again, on the

steepest part of the bank, climbing roses (Ayshires and Sempervirens) are planted, and left to ramble as they please. Although past their best, these were all in flower, and the effect they produced (looking at them from the road) was really admirable. On the side of a walk, leading from the house into the nursery, we remarked a row of standard climbing roses, consisting of Myrianthes, Princess Marie, crimson Boursault (a magnificent tree, with a stem 9 inches in girth,) Bennet's Seedling, &c. No form in which the rose could be trained could have a better effect than these weeping rose trees, which are never touched with the knife. Immediately behind Mr. River's house were numbers of pans full of seedling conifers. Mr. R. raises all his seedling conifers in the open air; they never at any time receive artificial heat. They are sown in pans in loam, a piece of perforated tile is placed over them till they begin to come up; it is then removed, and nothing more than common routine treatment is given them. Near these were two houses full of young vines, and at the end of one of the houses here we noticed a nice stock of young plants of the Stanwick Nectarine, which has been committed to the care of Mr. Rivers to propagate. They were worked on peach stocks, and are thriving well. Mr. R. is of opinion that the peach will prove a valuable stock for both peaches and nectarines for pot culture, as plants can be fruited on it in a very small state. We saw peaches in 4-inch pots quite healthy, and Mr. R. thinks they might be fruited well in 8-inch pots. Of roses in pots, there were many thousands; quantities of them were plunged in saw-dust on the surface of beds in an exposed situation. All were in capital health. In a number of brick beds here, 4 feet wide, we noticed a select collection of junipers, among which were J. excelsa, J. oblonga pendula, alpina, squamata, and others; and by the side of them were apples in 6-inch pots, on the true French Paradise stock (Pomme de Paradis,) which Mr. Rivers thinks is the same as the dwarf apple of Armenia. It is very dwarf, and rather tender.

Passing one of Mr. Ker's trellises, figured at p. 827, 1848, on which peaches, cherries, plums, and pears were growing well, we arrived at a plantation of different kinds of gooseberries, intermixed with which were filberts and nuts, having straight clean stems 4 feet high. Managed in this way they fruit well, look ornamental, and produce no suckers. In order to give young peaches a better climate than they would otherwise have in the open ground, Mr. Rivers has had a number of dwarf walls put up, about 3 feet high and 4 feet apart, on which the trees are trained, and he finds the plan an excellent one. These dwarf walls or palings consist of the staves of tallow casks, bought of the Russian tallow merchants in London, nailed to upright stakes driven into the ground; they are black in colour, having been painted over with gas-tar and lime. The same contrivance on long stakes has been applied to the training of "rider" peach trees. Some of the young peach trees here were stated to have been covered with curled leaves in spring, but they have been perfectly cured by cutting down the shoots; the trees have made new ones, which will ripen well and are perfectly free from curl or speck of any kind. The same kinds of boards as are used for the peach trees laid against a steep bank, formed a suitable place for training pear trees on, which are kept in a small state by being on quince stocks, and by root pruning. In front of these was a plantation of Mr. Rivers's large fruited monthly raspberry, both in flower and fruit. It produces the latter from lateral shoots, which it puts forth from every joint; and in this respect, as well as in the size and flavor of the berry, it differs from the old variety known as the double bearing raspberry. This nursery being loam on sand is quite a vine soil, and Mr. Rivers is trying some important experiments with vines in the open air, on banks covered with flints, and on pillars, on which the vine has a very ornamental appearance, even independent of fruit; but Mr. Rivers believes that it will ripen fruit managed in this way, and to that end plants have been procured from the very northernmost parts of the vine countries for these pillars. Amongst them Piepoule Noir, Moustardie, Raisin de Valentia, and numerous others, were in bloom, and promised to bear well. Mr. Rivers is a strong advocate for the growing of pears in a pyramidal form, and on quince stocks. He has them planted all over his nursery in rows running from north-east to south-west. The rows are 24 feet apart, and the trees stand 5 feet apart in the row. By this arrangement an open border, unincumbered by overhanging boughs, is left between the principal rows. Many of the trees were five years old and 8 feet high, well furnished with branches from the base, and bearing fruit. They are all shortened-in twice a year, viz., June and August. In order to obtain dwarf plum trees, Mr. Rivers is trying some experiments with the plum on the sloe, which is likely to prove a valuable stock for it; and with a view to get dwarf cherry trees, he employs Cerasus Mahaleb, or "Perfumed Cherry," as a stock. His object is to have fruiting trees of all sizes and of all sorts, in order that the purchaser may be enabled to buy a tree just in whatever state he chooses. He has cherries a foot high that have borne nearly a quart of fruit, and plums in fruit not more than 18 inches high. Mr. R. is striving to obtain an improved race of hardy late pears, and in order to prove the seedlings quickly he plants them in rows with a quince stock between each plant; the top of the seedling is taken off and grafted on the stock, and in this way much time is saved in this important operation. Before leaving the fruit trees, of which Mr. R. has an enormous collection, and he has a quarter for specimen trees of all the sorts cultivated, we should mention that he has found salt applied at the rate of a quarter of a

peck to a tree beneficial to the growth of plum trees.

A quarter is planted with different kinds of oaks, in order to prove their respective hardiness. Among them was a seedling nearly evergreen, about 15 feet high, having the habit of a Lombardy Poplar. Of hardy lawn trees and shrubs, Mr. Rivers has an extensive collection, and a great many different kinds of weeping trees. We noticed a collection of different sorts of Brooms and Cytisus grafted on the purple Laburnum. He has new weeping elms, new weeping birches and thorns, and a weeping red-flowered chestnut (Pavia humilis pendula.) We observed mulberry trees 40 years old, and with stems 12 inches in girth, which had been transplanted, and were doing well, showing how retentive of life the mulberry is. These had been cut well in, root and top. Mr. Rivers has just put up a cheap house for propagating Magnolias in, and growing vines, &c. It has no back wall except a beech hedge; the roof is supported by stakes driven into the ground 7 feet high at back, 2 feet high in front, with a 14 feet rafter. There is a sunk path up the middle, and on the right and left beds, which are thus raised up near the glass. The rafters are 20 inches apart, and glazed with sheet glass; and owing to the extreme ventilation no burning is ever experienced.

We now come to the roses, of which Mr. Rivers has an amazing quantity. We think we understood him to say that he had 10,000 standard Hybrid Perpetuals and Bourbons alone, chiefly worked on the Manetti stock, and all clean and healthy. No aphis or blight was to be seen. Mr. R. informed us that he thought the air too bracing for these pests, which seldom or never trouble him; and when they do their visit is but short. It would be vain to attempt to describe what we saw among roses; but we cannot pass over unnoticed a plantation of 500 standards of Géant des Batailles. This was truly an interesting sight, the glowing colours of this fine rose reflected by the rays of the setting sun, had a striking effect. It is one of the best of roses, being both early and late in flower.—*Gardeners' Chronicle.*

DOMESTIC NOTICES.

Grafting and Dwarfing.—*Dear Sir:* Although I have attentively read every number of the Horticulturist since its publication, I have failed to satisfy myself upon the subject contained in the following questions, and would therefore request you to do me the favor of answering them in your valuable Journal.

In working peaches on plum stocks, is it advisable to bud at the surface of the ground, or standard high? [At the surface of the ground; and because the growth of stem and stock, correspond more closely than when budded standard high. Ed.]

Wherein are plum stocks superior to their own stocks, for growing peaches? [They are not superior for *standard* trees, if *healthy* peach stocks can be had; for trained trees they are considered superior, partly because the trees grow more compactly, and partly because, from the hardier character of the plum stock it is less liable to disease. Ed.]

Can apricots be dwarfed, and by what process? [By budding it on the Sloe. Ed.]

Which is the most desirable for dwarf, or pyramidal apple trees, Paradise or Doucin stocks? Truly yours, *C. N. R. Milan, O., August 28th,* 1849.

[We cannot better answer the latter query than by quoting Mr. Rivers' remarks in his "miniature Fruit Garden." "On the continent, there are two or three varieties of the apple known under the name of the Paradise apple: viz.—the Pomme de Paradis, the Pomme de St. Jean, and the Doucin. These are all called Paradise stocks in England, but on the continent the first and last are used for distinct purposes—the first for dwarf bushes, the latter for pyramids. The Pomme de Paradis, (Paradise apple of the French) is *exceedingly* dwarf in its habits, and too tender for this climate, unless in very dry and warm soils. Out of 2,000 imported in 1845, more than one half died the first season, and two-thirds of the remainder the following one. They were planted in fine fertile loam, favorable to the growth of apples, and on which the Doucin, or English Paradise, planted the same season, grew with the greatest vigour. The same result attended an importation of 2000 in 1846: But very few of them are alive, and the apples grafted on them are exceedingly dwarf. The Pomme de St. Jean is more hardy than the true Paradise, not quite so dwarf, and yet not nearly so vigorous as the Doucin; it is the latter, or English Paradise, which is most deserving of our attention for forming fruitful pyramids, the culture of which is very simple."

We may add to the above that as the climate of Ohio is more like that of France than that of England, there is no doubt that the true Paradise stock, (Pomme de Paradis) would succeed well there. The Doucin or English Paradise is the stock usually employed for dwarf apples in this country. Ed.]

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Horse Yoke.—*Dear Sir:* In your March No., I noticed some person inquiring where the horse neck yoke, invented and patented by Dansworth,

could be found; I would inform the person that they can be procured in Buffalo, at HERSEE & PIMMERUS'S, 307 Main street. I consider it a good article, and one that will answer every purpose on a farm; it is just the thing for those that are cultivating fruit on a large scale. You can plow close to your trees without injuring them, which is not the case with the old way, where you use whiffletree; it also answers well as a cheap harness for farm wagons and sleighs. Yours, respectfully, *J. P. Checktouaga, Aug.* 20, 1849.

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HORTICULTURAL PARTY.—We learn that our friend, Dr. BRINCKLE, whose zeal and knowledge place him among the foremost of amateur horticulturists, held at his residence in Girard Square, Philadelphia, on the evening of the 13th September, one of the most agreeable horticultural *soirees* ever enjoyed in this country. Had we been able to accept his kind invitation, we would gladly have noticed this reunion more fully; but we now are forced to content ourselves with the following memoranda, kindly sent us by one of the guests. ED.

During the horticultural exhibition, we have had rather more than the usual supply of fruits and flowers; but the climax of the gala was last evening, when Dr. BRINCKLE, to do honor to the occasion, and to exhibit some remarkable fruits and wines that had been provided by his liberality and that of his numerous friends, gave a "Horticultural Party" at his elegant and hospitable mansion in Chestnut-street, where were assembled the amateurs, the gardeners, and the friends of liberal culture. J. P. CUSHING, Esq., of Boston, kindly forwarded a liberal supply of his best grapes, pears, &c., and the tables were in addition, ornamented with every flower now in bloom, the whole forming a fete such as the writer would be glad to see frequently repeated. As an evidence of the good things of this region, I beg to insert in the pages of the Horticulturist the following list of fruits exhibited at a private evening party on this single evening:

Oranges and Figs.

Citron melons, two varieties.

Water melons—Mountain Sweet, Mountain Sprout.

Flowers—Very beautiful pyramids and basket-bouquets for the table, from Messrs. BISSETT, KILVINGER & RAABE.

Chinese Preserves—Finger fruit, Mangostan.

Native Wines—Longworth's Sparkling Catawba, Longworth's Catawba or Hock, Buchanan's Hock, Resor's Cape.

Foreign Wines—Washington Morton's Champagne, Geisler's do., Wirts & Co., do.; Hockheimer, two vintages; Weinnengen; very superior Hock presented by Mr. LENNIG. Chambertin, Port, Sherry, Madeira.

Grapes—Black Hamburgh, very large, Hanstrells, do., White variety. *Nectarines*—New White, Early Violet. *Pears*—Bartlett, Golden Beurre of Bilboa, Flemish Beauty. All the above from Mr. CUSHING.

Grapes—Lashmere's Seedling, Chasselas de Fontainbleau, Muscat Muscadine, White Frontignan, Grizzly Frontignan, Raisin des Carmes, Decan Superb, Cambridge Botanic Garden, Victoria, Black Hamburgh, Black Prince, Fromental, Frankenthal. The above from Mr. BUIST. Many other fine varieties were presented by Messrs. CLEVELAND, BAXTER, JOHNS and COPIA.

Pears—Petre, Chapman, Lodge, Pennsylvania, Moyamensing, Hanover, Seckel, Seckel from original tree, Autumn Bergamot, Zantzinger, White Doyenne, Gray Doyenne, Chancellor, Orange, Steinmetz' Catherine, D'Angouleme, Julienne.

Peaches—Many varieties.

An interesting item in the evening's proceedings consisted in testing the American wines. The labels from these and the best foreign brands were removed, and private marks attached. The best judges in the city were present, and the result would have been exceedingly gratifying to Messrs. LONGWORTH, BUCHANAN and RESOR, had they been present, and I may add, will do much in introducing the Cincinnati wines into use in this region. Yours, *S. Philadelphia, September* 14, 1849.

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NORTH AMERICAN POMOLOGICAL CONVENTION. [We were, much to our regret, prevented by severe indisposition, from attending the convention at Syracuse, which we learn was a satisfactory one. We are much gratified to see by the following report, that resolutions were passed which we sincerely hope may lead to a consolidation of the two associations in one permanent one of a national character. ED.]

This is the second session of this Convention, and was well attended. The display of fruit, though not extensive, was still very fine.

The meeting was called to order by Mr. DOUGALL, of Canada West, who nominated Col. BENJAMIN HODGE, of Buffalo, as Chairman. On motion of Dr. HERM. N WENDELL, Mr. M. B. BATEHAM, of Ohio, was appointed Secretary, *pro tem.* The call for the Convention was then read by the Secretary, and a committee of five appointed to nominate permanent officers.

On motion, all gentlemen were invited to sit as members, who felt an interest in fruit culture.

The committee consisted of the following gentlemen:—N. Goodsell, F. R. Elliot, Chas. Downing, A. Bryant, and J. W. P. Allen.

The Convention took a recess.

After being called to order by the Chairman, the Secretary called a list of the names of members of the Convention, which we must omit for want of room.

The committee on nominations, reported the following gentlemen as permanent officers. The report was adopted.

For President, Dr. J. A. KENNICUT, of Ill.
1st. Vice Pres., JAS. DOUGALL, of Canada West.
2d. do Dr. HERMAN WENDELL, N. Y.

3d. Vice Pres., C. M. Hovey, Mass.
4th. do M. B. Bateham, Ohio.
5th. do H. P. Byram, Kentucky.
6th. do James G. Mapes, New Jersey.

Secretaries—F. R. Elliott, B. Hodge.

The President, on taking the chair, thanked the Convention for the honor they had done him.

The report of the committee on organization, was received, read and accepted. The report contained the rules for the Society, and the appointment of a committee on seedlings, which appointment was made by the President.

Reports from New-York, Vermont, Pennsylvania, Michigan, Illinois, and Ohio, were received.

The President suggested that the committee proceed at once to the examination of fruits, as they were perishable articles.

Dr. Herman Wendell, of Albany, offered a preamble and resolution in reference to the consolidation of the two conventions, so that but one meeting might be had in a year, which was adopted. The President appointed a committe for the purpose of conferring with the other society. The following is the preamble and resolution:—

Whereas, the National Pomological Convention held at Buffalo, in September of 1848, under the auspices of the N. Y. State Agricultural Society, composed of delegates from 15 States and the two Canadas was the *first* general Convention of such character ever convened in the United States, and and whereas that convention unanimously resolved that hereafter an annual Convention of like character should be held under the title of the North American Pomological Convention. that the first meeting with that title should be held in the autumn of 1849, at the place where the great fair of the New-York State Agricultural Society was to be held, and on the day succeeding the close of said Fair, therefore we consider this Convention entitled by courtesy to perpetuate itself, but being aware that a convention of an analogous character was held in the city of New-York in the autumn of 1848, and that said convention organized itself into a permanent association under the title of the American Congress of Fruit Growers, which is to assemble in said city of New-York, on the 2d day of October next, and believing that the advancement of Pomological Science, as well as the inclination and interests of Pomologists throughout this continent, will be best promoted by a merging of the two apparent conflicting associations into one general organization for future operations, therefore, be it

Resolved by this Convention, that a Committee of five be designated by its President, whose duty it shall be to attend the coming session of the American Congress of Fruit Growers, and confer with the said congress. or a committee whom they may select in relation to the meeting of the two associations, and as far as this convention is interested, the settling of questions of priority of organization, places of next meeting, and title of Associaton, shall be left to the committees whom the two organizations may appoint, and that we will exert ourselves to induce a general attendance of those interested, wherever the joint committee determine the next Convention shall be held, but we cannot omit giving it as our opinion, that the cause of Pomological Science will be most promoted, and the feelings of the great mass of Pomologists best satisfied if the next meeting should be held at Cincinnati, or some other western city.

The President then named Dr. Herman Wendell, Prof. James G. Mapes, F. R. Elliot, Chas. Downing, and Dr. J. A. Kennicut, as the committee. *Syracuse, Sept.* 14.

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Hints in Nursery Culture.—*Respected Sir:* As one of the main objects of the Horticulturist is to disseminate information, and as I have derived many valuable hints from its pages, I propose to give a little of my experience in the nursery business with some reasons for it. There appears to be considerable difference of opinion and of practice, in procuring stocks to graft or inoculate upon in different nurseries. I have been much interested in many articles, relating particulary to the best mode of propagating trees in the nursery, and in none of them more than that of H. E. Hooker, of Rochester, in the last number. This is a capital practical article, and is worth more than a bushel of theory. It is this kind of information that we practical men want.

The plan that I prefer in raising stocks is the following, for apple, pear, plum and cherry; (for peach, the kernels are planted where they are to be inoculated.) The seeds, shortly after being obtained, are mixed with sand, and put in boxes and buried deep in the ground, except the plum and cherry, which are placed in reach of the frost in winter. The ground is prepared in the fall or beginning of winter, by being thrown up in ridges of the same width as required for the beds. By this means, the ground can be worked much earlier in the spring, which is important, as the seeds begin to sprout with the first appearance of warm weather. The seeds are sown in drills across the beds, and if too thick are thinned out after coming up, the object being to have them well grown in one season. By frequent stirring the ground and keeping them clean, they are many of them by fall, one-fourth of an inch in diameter, and from 18 inches to 2 feet in height. They are taken up late in the fall, and buried where they can be reached at any time. Towards spring they are grafted, except those that are too small; these are planted in the nursrey in the spring to inoculate in the latter part of summer. In grafting, the stock is cut off near the surface of the ground, at a smooth place, and a graft about three inches long, inserted by cleft grafting. The larger and more thrifty growing stocks are selected for the more thrifty growing grafts; by this means, it is probable that both are better suited, than if both large and small stocks were grafted indiscriminately with free growing

sorts The roots are cut off to about 6 inches long, and then immediately packed in boxes, and covered with earth to near the top of the graft. No wax is needed; the earth being placed around the junction of the stock and graft is quite sufficient, and the shoulder of the stock being small, is soon grown over. Perhaps whip grafting would form a smoother union at first, but after a couple of years growth, the difference would hardly be perceived, and no advantages obtained by it, while cleft grafting is much easier, as no tying or wax is needed. The grafts are kept in the boxes till a suitable time to plant out in the nursery, and by this plan we need not be hurried on account of weather, as they may remain in the boxes for some weeks after they begin to grow, by keeping the earth moist about them. They frequently grow 2 or 3 inches before planting, and appear to do quite as well as if planted before the buds opened. They are planted by a dibble, and if the ground is then dry, we pour a little water at each root to settle the earth better about them, and again cover up the top of the stock. Some nurserymen in this state, particularly foreigners, recommend and practice themselves, pinching off all side shoots at first, so as to make a clean stem. This practice I do not approve; the stems will grow stronger by leaving the side shoots on for a while, and then trim gradually. The leaves are as necessary to the formation of wood on the stem as the roots are, and though we may compel the stem to grow taller, it will be at the expense of the size of the body, and the tree will be weak, and not grow so freely afterwards. By thus treating them and keeping them well cultivated, they will often in 2 years, or in at least 3 or 4 years, be large enough to transplant. I recommend well grown two-year-old trees; these can be taken up with but little loss of room, and when well planted, will in four or five years generally make larger and finer trees than older ones. In taking up large trees for transplanting, we necessarily deprive them of many of their roots, and the well planted do not for some time fully recover from the shock, while the smaller trees grow up almost without any check. It seems to me a very mistaken idea to want large trees to plant an orchard with.

I entirely concur in H. E. Hooker's last paragraph, and see no way to obtain good fruit except by "root-grafting;" even admitting such trees did not live so long. Who would prefer seedling fruit trees when hardly one in ten would be worth the ground it stood upon, to having the best of every kind in its season. Thy friend and well wisher, *Yardley Taylor. London Co., Va., 9mo. 15th.*

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Colored Glass.—The progress which the art of coloring glass for ornamental purposes has made in this country is very encouraging; indeed, windows and sight lights are now produced in this city by Euston & Weer, which leave little to be desired, except it be greater encouragement for the makers. They paint and burn in every variety of pattern and in excellent taste. It is only necessary to give them a drawing by mail or express, with the size of your proposed window, and it will be immediately executed.

In a villa or cottage, even a single stained window at the staircase landing, will produce an effect which nothing of the same cost can do. *J. J. S. Philadelphia, Sept. 14.*

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The Elizabeth Cherry.—*Mr. Downing:* From my memorandum book I extract and forward you the following drawing and description of a new variety of cherry, of which I have had some knowledge these three years past, but more satisfactorily this past cherry season. The age of the original tree is sufficient guarantee that no change may be expected in its quality or bearing properties.

This cherry was grown from seed by Caleb Atwater, Esq., of Atwater, Portage county, Ohio; and was named by Prof. Kirtland after Mrs. Atwater, from respect for that lady. Fruit borne in twos and threes.

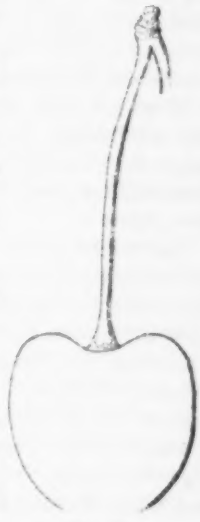

Fig. 83.

Description.—Size large, or about the same as Large Red Bigarreau.

Form rounded, heart shaped, flattened upon the sides.

Colour dark rich red, when fully ripe, mottled slightly with a dark purplish red.

Surface generally smooth and regular.

Stem of medium size, generally about 1¼ inch long, but sometimes 1 inch, and, again, 1½ inch, planted in a fair, regular basin.

Flesh half tender, yellowish, slightly tinged with red, juicy, pleasantly sweet, and with a fine delicate flavor.

Pit ovate, rounded, of size proportioned to the fruit.

Fig. 84.—*Side View.*

Ripens, in usual seasons, about the same time as Arden's Early Heart; or, say, 10th to 15th June.

History and Growth of Tree.—For this, I am indebted to the originator of the variety, Mr. Atwater, who writes me as follows:

"The original tree is 25 years of age. Pit brought from Connecticut in the fall of 1823. It commenced bearing when quite young, and has ever continued an abundant bearer. The fruit hanging in rich bunches, giving to the tree a glorious appearance when the fruit is ripe. Growth upright, pyramidal, rounded.

"*Soil and position* of original tree is a clay loam, rather thin, with a strong hard clay subsoil, situated upon the north side of a building."

Mr. ATWATER has several more seedlings,—one a black cherry, of which he thinks highly; but I have not seen it in perfection. Prof. KIRTLAND has also several others that promise well, but for two causes will not, at present, be brought forward. The principal one of which, is a wish that those already brought out may become tested in various sections of the country, when, if they prove as valuable abroad as at home, the public will have more confidence to receive what yet remains unnoticed. Yours, *F. R. Elliott. Cleveland, Ohio, September*, 1849.

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[We owe the following notes and translations, from some standard German pomological works in our collection, to our neighbor, J. W. KNEVELS, Esq. They will serve to give our pomological readers an idea of the minute precision of the best German writers. ED.]

POMOLOGICAL NOTES.—*A. J. Downing, Esq.*—Dear Sir: The pear we term *Beurré Bosc*, is described in the "Kemobstsorten des Sudlichen Deutschlandes" under the title of Bose's Early Gourdshaped Pear, (Bose's Frühzertige Flaschenbirne,) with the synonym, Calebasse passe Bose; the final letter in the proper name being an *e*, not a *c*. We should, therefore, read and say—not Beurré Bosc, but Bose's Beurré. It is ranked as first rate.

The name Glout Morceau, is not applied in this work to the fruit thus distinguished by us; but is described as Hardenpont's Late Winter Beurré, (Hardenpont's Späte Winter Butterbirne,) with the synonyms, "Beurré d'Hardenpont" and "Hardenpont d'Hiver." The synonym Kronprinz Ferdinand von Oestreich, applied by the London Horticultural Soc. Catalogue to the Glout Morceau, appears erroneous; as it is described in this work as a distinct fruit, in the following terms:

79. "Kronprinz Ferdinand von Oestreich," (Crown Prince F, of Austria,) Diel xxii. p. 217. A large, handsome, choice, and truly delicious winter pear; having a resemblance, shape, and size to a Summer Bon Chretien; often, also, to a longish Chaumontel. On dwarfs, the fruit is 3 inches in breadth by 3¼ in height. On standards, 2¾ broad by 2¾ high.

The form is longish, eggshaped. The swell is generally in the middle; often, however, more towards the eye, where it tapers off and forms a flat, upon which the pear can stand. The eye is open, short leaved, placed in a more or less considerable depression; sometimes the depression is very deep, around which are various swellings, which, especially in large specimens, show themselves all over the fruit. The stem, from one-half to an inch long, is thick, and stands in a cavity surrounded with swellings and covered with rust.

The colour of its rough, but not at all greasy skin, is, when taken from the tree, a bright green, becoming, as it ripens, first a yellowish green, and finally a bright yellow; at which period, however, no redness is observable.

The dots are indeed numerous, but very fine, and not conspicuous. This is accompanied, in many fruits, with cinnamon coloured blotches round the eye and insertion of the stem. The fruit is without perfume, or with a slight one when dead ripe.

The flesh is clear white, very juicy, buttery and melting, with a high, sweet, sugary Muscatelle flavor, resembling a mingling of the taste of an Autumn Bergamot and Crassane.

The core is roomy and longish, but not very large. The cells are long, conchoidal (muschel formig,) pretty roomy, containing only a few very long black seeds. It ripens in December, lasting till March. The tree requires good cultivated soil, a protected site, and thrives peculiarly well as a dwarf, grafted on quince. As a standard, it grows fast, and soon bears abundantly; for which reason it does not become a large or spreading tree.

This pear is at present only found in choice gardens, and does not appear generally known, as we have never seen the fruit at public exhibitions. It is a choice winter pear, of the very first rank, which should not be plucked too soon, if it is to attain its perfect excellence, and is to be recommended to every garden proprietor."

Under the head, *Red Magnum Bonum*, in your work, as well as in the London Hort. Society's Catalogue, three names of plums are arranged as being identical, which, in Liegel's work on Plums, are separated and made distinct varieties. The "Red Egg Plum," the "Imperiale Rouge," and the "Imperiale Violette." That you may take the case into consideration, and determine whether they ought to remain confounded, I will subjoin Liegel's description of the three at full length.

Die Rothe Kaiserpflaume—*Imperiale Rouge*. Young twigs, straight, almost naked germs, eyes distant, pointing outwards; (that is, not setting close—standing off;) flowers generally single; leaves long, ovate, acuminate, sometimes lance-shaped,—upper surface smooth,—under having coarsely, deeply and doubly serrated petioles, long, upper side pubescent. Fruit very large, invertedly eggshaped, occasionally oval, of a red blue; stem long, pubescent; free stone; pit, lancet, and invertedly eggshaped below, long above, blunt pointed. The tree grows large, and throws out its main branches in acute angles with much spray; but yet not thickly leaved, as the leaf buds stand far apart. In this way, as well as by its dark green, narrow, long, drooping leaves, the tree distinguishes itself. Bears freely every year, but never in great clusters—sometimes in pairs; blossoms early, long before it is in leaf, which open late; rather tender as to cold; capital for forcing.

I have several times raised it from the pit, genuine, as is also stated by Gumbroole and Borkhause.

The summer shoots are straight, middling thick,

of a violet brown, overlaid with a broken silver scarf-skin, almost naked, covered with short, thin, almost imperceptible hairs. The leaf buds (pointing out, remote,) short, thick at the base, and a little woolly. The eye bearers (augenträger ophthalmopodia,) broad, high, long, rising gradually, not perpendicularly. The leaves are large, 3 inches 7 lines long, 1 inch 10 broad, and pendant, flat, thick, stiff, coarsely ribbed and nerved, upper surface bare, the lower pubescent, dark green, longish eggshaped, pointed, sometimes lancet shaped, coarsely, deeply, and doubly serrated. The fruit has some resemblance to the shape and colour of the common prune, only considerably larger,—being *very* large, two inches high, one inch 5 lines in breadth, and one inch four and a half lines in thickness. Its shape is variable, often a regular oval, but most frequently narrowing towards the stem. The greatest breadth is often in the middle. Occasionally the back and belly are compressed; and the same is sometimes remarked on the sides. The suture, deepening below, draws the back down flatly, and divides the fruit unequally; one side rising towards the point.

The remains of the pistil, large, yellowish grey, and flat towards the point, for the most part rather more towards the belly. The stem is 8 lines long, hairy, slender and straight, greenish, with rusty spots. The cavity of the stem is narrow and rather deep. The bloom is pretty thick, and light blue. The colour is red blue, now and then pretty dark; but the red colour still is always predominant.

Grey and yellow specks are spread very thickly over the whole fruit. The skin is thick, tough, may be stripped off, and is bitterish sour. The flesh is whitish yellow, firm, prune like, a little coarse, pretty transparent and bright, very juicy, of a sweet, high flavor.

The pit is closely enveloped by the flesh, but parts freely, except a little upon the edges, and is, in relation to the size of the fruit, small, and strongly compressed. It measures one inch three lines in height, seven lines broad, and three and a half lines thick. The shape is lancet, inverted eggshaped below, sharp above, blunt pointed. The cheeks rough and flat.

The back and belly are about similarly curved. The greatest breadth is generally towards the top. The midrib is sharp, and enlarges towards the bottom. The belly furrow is narrow, and for the most distorted in places; its edges are indented. The fruit ripens in the last *decade* (drittel,) of August. The fruit, from its striking magnitude, early ripening, and distinguished agreeable, sweet taste, deserves to be disseminated. Unfortunately, however, it is not a good bearer; it rots in rainy weather; its suture cracks open frequently in the direction of the pistil, and becomes gummy, which gives rise to deformity in shape, and renders it scarcely eatable.

It hangs firmly on the tree. May be known by its size, early ripening, predominant *red* colour, oval figure, sometimes assuming the inverted eggshape. The tree is distinguished by its narrow, longish, drooping fruit leaves; the pit by the blunt, long, projecting points at its base.

The Imperiale Violette is often confounded with this plum in nurseries, and by authors; but is inverted eggshaped, smaller, shorter, and more blue in colour, and ripens later.

Die Rothe Eierpflaume—*Red Egg Plum—Reine de Chypre*, Pr. dom. de Cypro. The young twigs are zig-zag, (flexuosus, bent from bud to bud,) naked, slightly pubescent at the base; buds crowded, pointing out; flower stems generally in pairs; leaves broad, eggshaped, rather acuminate, quite hairy, coarsely serrate; petioles long, hairy; fruit very large, compressed, inverted eggshaped, flamed with red; stem long, thickly haired. Fruit a free stone; pit inverted eggshaped, thick cheeked above, short pointed below, projecting, blunt pointed. The tree grows to a large size, thickly leaved, bears every year, and often in masses, (clusters;) comes true from the pit.

The summer shoots are pretty strong, *characteristically* dotted with grey, rough, naked, and at the ends set with fine, scarcely perceptible hairs. The buds are crowded, pointing outwards, very large, bellying, blunt pointed, loose (aufgelockert,) almost entirely covered with a whitish wool. The bud-bearers (augenträger ophthalmopodia,) [shoulders,] are broad, almost long, high, marginate, shining, without ribs. The leaves are large, three inches long, two inches broad, dependent (drooping,) flat, thick, soft, pretty strongly ribbed, thickly haired both on the upper and under surfaces; ribs rugose, dark green, broadly eggshaped, coarsely acuminated, for the most part serrated crenately. The petioles are 11 lines long, stout, thickly haired, channeled on the upper side, and a little reddish.

The fruit is in shape and size like a hen's egg; is 1 inch 11 lines in height, 1 inch 7 lines broad, 1½ inch thick. The shape is (einseitig,) one sided, uneven, irregular; (that is, I presume when the fruit is divided downwards, through the suture, the two parts are of unequal dimensions and different shape;) phial shaped, compressed on either side, running off suddenly towards the belly, and forming a blunt edge. The suture is scarcely perceptibly depressed, and draws the back rather flattish, generally dividing the fruit unequally. The pistil mark is large and grey, placed in the middle, near the point which rises toward the belly. The stem is 13 lines long, thinly haired, slender, straight, generally of a deep rust colour. The cavity of the stem is placed entirely upon a raised (elevation) point. The bloom is thin, and of a whitish blue. The colour is bright red, in which many dark red stripes and blotches occur, and which colour the fruit, especially on the sunny side, of a deep dark flame tint. Grey dots are thickly sprinkled over the surface. The skin is

thick, tough, easily stripped off, sour, bitter, and not eatable.

The flesh is bright yellow, very juicy, a little hard, yet quite melting, of a very pleasant, high, sweet and vinous flavor. The pit readily frees itself from the flesh, except a little round the edges; is round, streaked with red by the stringiness of the pulp, (which strings are red.)

It is 1 inch high, 3 lines broad, 5 thick, inverted eggshaped, rising in the back above, short and sharp pointed below; its blunted point projects a good deal.

The cheeks are strong, rough and raised. Three apricot stone-like edges separate, the middle one rather broad and sharp below, where the pit is widest. The belly furrow is narrow, shallow and irregular, the back rising more than the belly.

The fruit ripens towards the end of August. It is worthy of propagation from the size, beauty, early ripening, from its pretty good taste. and from the abundant bearing of the tree. When over ripe, it becomes watery and vapid; is apt to crack and rot in rainy weather. Should be plucked by hand, as it bursts when shaken from the tree. Is distinguishable from all other red plums by its size, short inverted eggshaped, red flamed colour, and long stem.

Violet Imperial—*Imperiale Violette* (Die Violette Kaiserpflaume,) Pr. dom. imperiale violacea. Young twigs, straight, naked, buds rather crowded, pointing outwards; flower stems in pairs; leaves eggshaped, acuminate, hairy, almost doubly serrate; petioles hairy, two glanded; fruit large, inverted short eggshaped, oval, red-blue; stem hairy; pit free, irregularly ovate above, blunt pointed below, projecting a little, truncatedly pointed.

The tree grows pretty large, sends out single, spreading out branches, *not* thickly clothed with leaves; tender as to aspect, soil and climate, consequently does not often bear fully; requires a warm, protected site. Distinguished by its dark green foliage.

The summer shoots are pretty stout and long, of a violet brown, with yellow and grey specks, and streaks set with broken interrupted spots of silvery scarf-skin, naked and straight. The buds are almost crowded, pointing out, large, stout, naked, eggshaped, acuminate. The bud-bearers narrow, low, short, weak, and curtly ribbed. The leaves are middling large, 2 inches 4 lines long, 1 inch 9 lines broad, rather drooping, thin, soft, moderately ribbed, quite hairy, strongly wrinkled (rugose,) dark green, eggshaped, acuminate on the edge, undulate, and deeply, doubly serrate. The petioles are tender, 6 lines long, covered with hairs, channeled in some measure, rather reddish, with two unequal glands.

The fruit is large—sometimes very large, 1 inch 7 lines high, 1 inch 4 lines thick, 1 inch 3½ lines broad. The figure is inverted eggshaped, oval, rounded off above, below dwindling off rather more, blunt pointed; the greatest thickness is in the middle; back and belly are about equally elevated. The suture is rather deep, and presses the back strongly, and divides it in two unequal halves. The pistil mark is grey, small, is pretty much in the middle, almost flat, but not on the point; then the fruit often cracks open. The stem is 9 lines long, slender, straight, hairy, slightly rusty. The cavity of the stem is a little elevated, askew, narrow, but rather deep. Bloom thick, light blue. The colour is dark violet, strewed over entirely with gold colour dots,—leather-spots not unfrequent. The skin thick, tasteless, and cannot be readily stripped off. The flesh is firm, whitish yellow, slightly transparent, not too juicy, of a sweet, delicious taste. The pit is completely enveloped in the pulp, but readily frees itself when fully ripe; is 10 lines high, 6 broad, 4 thick, unequally oval above, blunt pointed below, compressed, projecting, truncate pointed. The blunt back ribs are elevated, and have their greatest curvature in the middle; the midrib is slightly elevated. The belly furrow is shallow, wide; the cheeks rather rough.

The fruit ripens gradually,—about the first decade in September. The Imperial Violet is a beautiful, large, and good fruit, meriting recommendation. The tree, however, is very sensitive to frost, and consequently is not an abundant bearer. The fruit cracks easily in rain, long before the time of ripening; it consequently rots on the stem, does not therefore adhere firmly to the tree, and is easily shaken off by the wind. May be known by its size, its short, inverted egg-oval shape, red-blue tint, and pretty firm flesh.

The Red Imperiale, which is often mistaken for it by writers and nurserymen, is much longer and larger, and ripens about three or four weeks earlier. The leaves of the two trees differ strikingly. This is short, eggshaped; that, spreading out, long, eggshaped, (oblongo-ovatum.)

The "German Fruit Gardener" describes and figures under this head the *Red* Imperial. Christ, another pomologist, erroneously styles this the Princess plum—Prune de Flandres, which name, in another work, he applies to the Violet Imperial. We have a *red* and a *violet* Imperial, a *violet* and a *dark blue* Imperatrice; both of which last ripen late. Noisette speaks of a small Imperial Violet, and terms the Blue Egg plum the Great Imperial Violet, &c. Yours sincerely, *J. W. K. Fishkill Landing, N. Y.*

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Vinery Correction.—*Dear Sir:* In the article I sent you, describing my vinery, a mistake occurs which should be corrected. I did not intend to have 100 bunches of grapes this year, but *next*. You say I am trying sheet glass, which every one knows has been a long time in use. It is the *rough* glass, rolled, and very strong; the same which the London Hort. Society tried, and reported upon in the Gardeners' Chronicle of April last. Yours, *W. Resorr. Cincinnati, O.*

PHYSIANTHUS ALBA.—I do not observe this pretty climbing plant noticed in your journal. Like Cobea, Maurandia, &c., it is a valuable plant in the flower garden or shrubbery, and is well adapted to cover the columns of light piazzas, etc. It grows from 10 to 20 feet in a season, when planted out in the open border in rich soil, and endures our hot summers without injury, bearing its clusters of pure white flowers in great abundance. It requires the same treatment as Cobea or Maurandia; that is, new plants should be raised from cuttings, wintered in the green house, and turned out in April. It may also be raised from seeds; but these seldom ripen well here. Yours, *A Tyro. Long Island, July* 2, 1849.

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PAULOWNIA IMPERIALIS—*Dear Sir:* There are some who have doubted the merits of this tree. I have cultivated it for five years, and think more highly of it every year. In general effect, it strongly resembles the Catalpa, both in foliage and growth; but it has several advantages over the latter tree. It is much more hardy, having borne last winter uninjured, in sites where the Catalpa was considerably injured, and where the mercury in Fahrenheit's thermometer fell to 14 degrees below zero. It is of very rapid growth, and its blossoms are of a beautiful pale lilac or French gray, with a delicate scent, not unlike that of violets. The only defect I have yet noted in this tree, is that it protrudes its flower buds the autumn previous, though it flowers not till May or June. Hence, in excessively cold winters, they are apt to get killed. A tree, however, in HOGG's nursery at Yorkville, near New-York, bloomed abundantly this spring, though standing in the open border, and exposed to 5 degrees below zero last winter. *Manhattan, N. Y., July*, 1849.

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HINTS IN VINERY CULTURE —*Sir:*—The following is an extract of a letter from Mr. SKINNER (Northwoods, England,) to his son in America. If you think its merits claim a place in the *Horticulturist* it is at your service. I remain yours truly, *J. H. Skinner. Dutchess County, N. Y.*

"Very small vines should carry but few bunches; but if they are large strong vines then they will carry a proportionally large crop. * * * * * The method I invented to ascertain, with great exactness, the strength of every vine in the house is this—note down, every year, the number of bunches every vine bears, and how it bears them. If you find that on some of the vines the bunches are not of a good color, and that they exhibit other marks of imperfection, when at the same time, other vines in the same house present fine bunches well matured, you have reason to believe that you have over-cropped your vine, and must leave fewer bunches on it next year. * * * * When set, stop the green shoot, *one joint beyond* the bunch; but when side-shoots grow below the bunch, pinch them off. And when the branch produces another shoot beyond where you stopped it at the one joint above the bunch, pinch that off *to one eye*. And when it produces another, serve that in the same way; and if the vine produces more shoots upon the whole than you can well spread under the wires, break off or rather out, the weakest of them. From 66 to 70 degrees of heat will do for grapes. Though I have often set the Muscat of Alexandria at a much lower temperature, when *no fire heat* had been applied. In the day when the sun shines let them rise as high as 80. I never syringe my vines, but I take care to sprinkle my floors and flues, or pipes with water, so as to produce a moist air in the house. And this I do frequently in the day when the sun shines bright. Heat, moisture and light combine to make the vine flourish. Some persons not understanding the management of the vine, have kept the air of the house so *dry* as not only to prevent the vines from thriving, but by this treatment, they have been swarming with the *red spider*, which have destroyed their leaves and made them so sickly, as to prevent the formation in embryo of the *next year's crop*. Moisture is a very great enemy to the red spider. When a cultivator is an advocate for syringing, care must be taken never to syringe when the vines, peaches, cherries, or whatever the plants may be which are being forced, are in bloom. because the syringing destroys the *farina, or pollen*, which impregnates the pistillate part of the flower, and which is essential to the setting of the crop. When the crop is fairly set, then, syringing may be resumed, but the water should be of the same temperature as the air of the house, and it should be thrown rather gently by the syringe, to prevent bruising the young fruit."

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ANSWERS TO CORRESPONDENTS.

STOCKS FOR DWARFS.—*Yeoman*, (Hartford.) You will find an answer to your queries about Paradise Stocks in another column of this number. Trees on the Doucin Stock commence bearing the 2d or 3d year after being budded, and if taken care of will live 20 years or more. They may be planted 8 feet apart. We know nothing of the effect of grafting the apple on the Siberian Crab Stock. There is no difficulty in budding the peach on the plum, if done early in *July*. The seeds of the elm ripen in the spring.

HEDGES —*Daniel Musse*, (Lampeter, Pa.) The Osage Orange and the Buckthorn are the two best hedge plants for the northern states. The seeds may be planted either in autumn or spring. For full directions, see Hort., vol. 1, p. 345.

MANURES.—*West Jersey*, (Bridgeton.) The "refuse stuff" you speak of, consisting of pulverized charcoal and soap-stone, would be excellent manure for any plants requiring magnesia, (Indian corn or the grape, for example;) as the latter substance enters largely into soap-stone.—*B.*

Johnson, (N. Y.) Apply your guano in the compost heap at the rate of 100 lbs. to sufficient bulk of compost to manure the acre, and let it lie all winter. It is much better than to use guano alone, as is commonly used in this country.

Fruit Trees.—*A Hartford Subscriber*. The pear trees require more food than your soil supplies. Make a compost of 1 bushel guano, 6 bushels of leached ashes, and 3 cart loads of good heavy loam, (your soil being light,) and apply a good coat of this as a dressing this autumn, digging it under the surface. For a compost for peaches and pears, see Hort. of last March, (vol. 3, p. 403.) Apricots, if worked on Plum Stocks, do well in strong soils, and perhaps better as standards, than when trained; but they should be headed down, or kept low and *bushy*, so that the leaves will *shade the trunk*; or they will be liable to *gum*, and die suddenly. We advise you to move your plum trees near to the hog-pen, and enclose them in a yard where the pigs can have the range.

Evergreens.—*A. R. C.*, (New-Haven.) To give your evergreens a healthier growth, (if the soil is already good,) give them a top-dressing of ashes and plaster, (gypsum,) and apply it at once.

Tea Roses.—*An Amateur*, (Rochester.) You will hardly succeed in keeping tea roses out in the open ground all winter, even by covering them well, unless you put a glazed frame over them, covering it with straw, and opening it occasionally in mild weather. You may keep them with ease through the winter, by lifting them with balls of earth now, transplanting them thickly into a common hot-bed frame in a sheltered place, and covering the glass with straw or mats. All the other everblooming roses will stand in the open borders by merely covering them well with branches of evergreens or litter, so as to keep the *sun* off in winter.

Peach Orchards.—*A Young Planter*, (Southside Staten Island.) The choicest late peaches for profitable market culture are the following:—Morris White, Crawford's Late, Heath Cling, Druid Hill, Snow Peach, Old Mixon Freestone, La Grange, and Ward's Late Free. In planting an orchard of 2000 trees in your neighborhood, we should choose the above in about equal proportions, giving the preference to Morris White and Crawford's Late, as the most uniformly productive. 16 or 18 feet apart, each way, is the usual distance; but you may plant them 12 feet, if you keep them low and bushy, and shorten-in the tops every year, by which means you will have the finest fruit. Above all, be careful to get trees of healthy constitution, free from all hereditary suspicion of the *yellows*. The size and quality of your fruit depends almost wholly on the *depth* and goodness of your soil.

Winter Pears.—*T. Willians*, (Philadelphia.) Pick the fruit in a dry day, let it lie 48 hours in a cool room; then wrap each pear in soft paper, and put the whole away in small boxes or kegs, in an airy cellar, free from frost. As the season for their maturity approaches, bring the boxes or kegs into a warm room, and they will ripen finely without shrivelling.

MASSACHUSETTS HORTICULTURAL SOCIETY.

BUSINESS MEETINGS.

Aug. 25, 1849.—President Samuel Walker in the chair

Letters were received and read from the Westchester County Horticultural Society, Pennsylvania, and the New-Haven Horticultural Society, inviting a delegation from this society to be present at their respective annual exhibitions

Voted, That a minute of the reception of the letters be made upon the records, and an acknowledgment forwarded to the societies by the corresponding secretary.

Voted, That a delegation, consisting of five members, be appointed by the chair, to attend the annual exhibition of the New-Haven Horticultural Society; and Messrs C. M. Hovey, Joseph Breck, Josiah Lovett, 2d., Eben'r Wight and W. T. Austin, were appointed delegates

Voted, That the societies to whom an invitation was extended last season, be invited to be present at the coming annual exhibition.

A communication was received from Lawrence Young, Esq., Louisville, Kentucky, in regard to the use of lime, as a preventive to the ravages of the curculio; and it was voted, that the letter be placed in the hands of the committee of publication, to be printed with the "Transactions of the Society."

Sept. 1, 1849.—President Samuel Walker in the chair.

Voted, That the exhibition previous and subsequent to the annual exhibition be dispensed with.

Voted, That the delegation appointed last season, with the addition of three members to be appointed by the chair, be a delegation to attend the meeting of the Congress of Fruit-Growers, to be holden in the city of New-York, Oct. 2, 1849; and Messrs. C. M. Hovey, Ebe'r Wight and Wm. K Austin, were added to complete the members of the delegation.

Voted, That a delegation, consisting of five members, with power to fill vacancies, be appointed by the chair, to attend the annual exhibitions of the Pennsylvania Horticultural Society, and the Westchester County Horticultural Society; and Messrs. Marshall P. Wilder, B. V. French, Cheever Newhall, Wm. R. Austin and Joseph Breck, were appointed delegates

Voted, That the President, with four members to be appointed by the chair, be a delegation to attend the annual fair of the American Institute; and the President, C. M. Hovey, W B. Kingsbury, Eben'r Wight and Wm R. Austin, were appointed delegates.

Sept. 8, 1849.—President Samuel Walker in the chair.

A letter was received from Nicholas Longworth, Esq., of Cincinnati, Ohio, accompanied with a box of wine, of American manufacture; and it was

Voted, That the thanks of the society be presented to Mr. Longworth, and the wine placed in the hands of the committee on fruits, to be exhibited at the annual exhibition, and afterwards tested.

Voted, That the Vice-Presidents of the society be a committee to receive and entertain the delegates who may be present at the annual exhibition

Edward C. R. Walker,
Recording Secretary.

ALBANY AND RENSSELAER HORTICULTURAL SOCIETY.

ANNUAL EXHIBITION.

The third annual exhibition of the society came off on the 19th and 20th of September, in the hall of the State Agricultural Society, and far exceeded any former exhibition, not only in the quantity of the fruits, flowers and vegetables offered for competition, but in their quality, number of varieties newly introduced, and beauty of appearance. The reports of the several committees which are annexed, indicate sufficiently the extent and richness of the display, without the necessity of further particularising; but I cannot refrain from congratulating the members of the society on the effect of their exertions, and also from hoping that the success of the past season, under unfavorable circumstances, may prove a stimulus to them for future effort

JOEL RATHBONE, President.

REPORT ON FRUIT.

The committee on fruit reports that there were exhibited by A. Bryant and Son, of Buffalo, twenty-six varieties of pears, for which the committee beg leave to return to Messrs. Bryant the thanks of the society.

By J H Bailey, Esq., Plattsburgh: 12 varieties of Apples and three of plums.

By J. C. Holmes, Detroit. 20 varieties of apples.

By Stephen E. Warren, Mount Ida. Troy: twenty-two varieties of pears; fifteen varieties of plums; twelve varieties of peaches, and two varieties of nectarines.

By Henry Vail, of Ida farm, Troy: twenty-eight varieties of apples; thirty-seven varieties of pears; twenty-four varieties of peaches; among them five seedlings, one of which, of medium size, light yellowish white color and red cheek, having delicate flesh, non-adherent to the stone, and well supplied with rich saccharine juice, was decided to be very good, and worthy of further trial; another, of large size and yellow color, one of medium size and greenish yellow color and of medium size and yellowish color with red cheek, as good and worthy of further trial. Four varieties of foreign grapes; four varieties of native grapes; also, Green gage plums.

By Dr. Herman Wendell: twenty-nine varieties of pears; eighteen varieties of apples; Isabella grapes growing in pots; three varieties of seedling peaches, nether of which possessed much merit; twenty-three varieties of plums; four varieties of muskmelons; and two varieties of quinces.

By E. P Prentice, Mount Hope: 10 varieties of plums; 11 varieties of peaches; 28 varieties apples; also, pears, grapes and melons.

By Isaac Denniston: 30 varieties of plums, among them nine seedlings, some of which are of very fine appearance, and may, upon further trial, prove worthy of dissemination, particularly one named by Mr. Denniston, the Madison—to designate it—which is of beautiful appearance, good size, and late in ripening—but few specimens being as yet sufficiently mature to test its quality—the committee therefore prefer leaving it for future consideration.

By V. P. Douw, Wolvenhook: 14 varieties of plums, 4 of grapes and 4 of water melons.

By Wilson, Thorburn & Teller: 9 varieties of pears; 3 of plums, and Victoria currants and Everbearing raspberries.

By E. C. McIntosh: 21 varieties of plums; pears, and foreign and native grapes.

The other principal contributors of Fruit, were Jas. Stevenson, 2 varieties of plums; S. Morgan, apples, pears and plums; J W. Ford, pears and plums; J. D. Thorpe, plums and peaches; D. B. Kirtland, peaches; F. W. Aiken, peaches; Dr March, plums; B. R. Wood, plums; Dr. Ward, peaches; W. P. Buel, apples and pears; E Corning, Jr., apples, plums, quinces and grapes; Dr J. Wilson, apples and Water and Citron melons in varieties; E. E. Platt, 13 varieties of plums, grapes and pears; Joel Rathbone, 7 varieties of grapes, and pears and apples; J. Carey, grapes; J S. Gould, 7 varieties of pears, 4 of plums, and peaches and quinces.

PREMIUMS.

The premiums were awarded as follows:

APPLES—Best and most extensive collection to Henry Vail,..... $3
Second best to Ezra P. Prentice, of Mount Hope,..... 2
Best six varieties to Henry Vail,..... 2
Best one variety, six specimens, to E. P. Prentice,.... 1

PEARS—Best and most extensive collection, to Henry Vail,..... 3
Second best, to Stephen E. Warren, of Troy,..... 2
Second most extensive to Dr. Herman Wendell. (This collection of Dr W. was more extensive than Mr. Warren's, but had in it a large proportion of new varieties with great foreign reputation, but with which the committee were unfamiliar.)..... 2
Best six varieties, to Henry Vail, of Troy,..... 2
Best one variety, to John S. Gould, for White Doyenne, very beautiful, and equal to this celebrated variety in its palmiest days,..... 1

PLUMS—Best and most extensive collection to E. C. Mc Intosh,..... 3
Second, to Dr. Herman Wendell,..... 2
Best six varieties, to Stephen E. Warren, Troy,..... 3
Best one variety, to Henry Vail, of Troy,..... 1

As Mr. Denniston's plums were not formally entered early enough for competition, and as they are worthy of great praise, the committee have determined to award Mr. D. three dollars for them, it being one of the largest prizes.

PEACHES—For the best and most extensive collection, to Henry Vail,..... $3
The second, to Stephen E Warren, Troy,..... 2
The best six varieties, to Henry Vail,..... 2
For the best variety, to B B. Kirtland, of Greenbush,.. 1

NECTARINES—The best exhibition to Stephen E. Warren, of Troy,..... 3

GRAPES, Foreign—For the best exhibition, to Joel Rathbone, of Kenwood,..... 3
For the best two varieties, to Joel Rathbone,..... 2
For the best one variety, to Henry Vail, of Ida Farm, Troy,..... 1

GRAPES, Native—Best exhibition, to Henry Vail,..... 3
Best two varieties, to Henry Vail,..... 2
Best one variety, to Henry Vail,..... 1

WATERMELONS—For the best two varieties, to V. P. Douw, of Wolvenhook,..... 2
For the best one variety, Black Spanish, to E. P. Prentice,..... 1

MUSKMELONS—For the best two varieties, to Ezra P. Prentice, for Green Citron and Beechwood,..... 2
For the best one variety, to Dr. John Wilson, of Bethlehem, for Skillman's Nutmeg,..... 1

FLOWERS AND FLORAL DESIGNS.

The committee on flowers and floral designs beg leave to report, that the exhibition has far exceeded their anticipations in variety of material offered for competition, richness of display, and appropriateness of the several designs and ornaments It is exceedingly gratifying to them to perceive the increased interest manifested by residents of both counties in the welfare of the society, and they beg leave to express the hope that the farmers of the vicinity may be induced to give more of their attention than heretofore to the cultivation of the finer fruits, and flowers, as well as to the introduction of the newly introduced esculents, and also come forward, and be active members of the society.

There was exhibited by Wm Newcomb, of Pittstown, Rensselaer county, a very rich display of double German Asters, 60 varieties of Dahlias, a finely arranged bouquet for the hand, a beautifully arranged flat mantel bouquet, composed of fine Dahlias, Verbenas, Gillias, Asters, Pelargonium leaves, Reseda odorata, Petunias, &c. &c. Also, another flat mantel bouquet, arranged very beautifully with about the same varieties of flower.

By James Wilson: Four very beautiful hand bouquets—two round and two flat, composed of choice and delicate flowers, as Fuchsias, Hoyas, Arbutilons, Verbenas, Stepanotus-floribunda, exquisitely arranged One flat mantel bouquet, very beautiful, four finely arranged round parlour bouquets, composed of choice Dahlias, Carnations, Roses, Delphiniums, Phloxes, &c. &c. 12 varieties of Verbenas;

10 varieties of Roses; 12 seedling Verbenas, and a large display of cut Roses, Phloxes, Dahlias, Asters—very fine—and other flowers

Also, by Mr. Wilson: 18 green house plants in pots.

By L. Menand: Green house plants in pots.

By E. P. Prentice: 6 varieties of choice Dahlias, and a collection of other flowers.

By J. Dingwall: 20 varieties of Verbenas, 15 varieties of China roses. One centre table bouquet composed of choice flowers, most tastefully arranged; two beautiful hand bouquets composed of choice and rare flowers, arranged with much taste; as also, a collection of cut Dahlias. Asters, Amaranths, &c. &c.

By Mrs Brinckerhoff, a growing Tuberose in full bloom, a variety of Dahlias and other flowers.

By Dr. Herman Wendell: 27 varieties of Phloxes, 27 varieties of seedling Verbenas, 40 varieties of new seedling Phloxes, some of which were very beautiful. A design representing a temple of Flora, of circular form, supported by four massive pillars, surmounted by a dome, and elevated on a raised platform; the groundwork of the whole of green Moss, studded with choice and delicate flowers, the ceiling of the temple of small flowers, arranged in the form of a star on a moss ground. A floral design in shield-like form, covered with Dahlias, Roses, Asters, Verbenas, and other flowers, and a basket bouquet composed of choice flowers exquisitely arranged. The above designs and basket were made by Mathias Tillman, Dr. W's gardener

By Joel Rathbone: 16 varieties of fine Verbenas; 5 varieties of rare Dahlias. 25 different varieties of cut flowers, as Roses, Fuchsias, Asters, &c. &c. A floral design in Candelabrum form six feet high, on a broad base of green moss, studded with flowers; the sockets of the branches filled with exquisitely arranged petite bouquets of choice flowers, the whole evincing much skill and a fine taste in Col. R.'s gardener. A design in antique form four feet high, composed of green moss studded with choice flowers, and having its angles and apex surmounted with beautiful bouquets tastefully arranged, showing good taste in the gardener.

By D. Thomas Vail, of Ida farm Troy: Several varieties of choice dahlias and other flowers, a beautifully arranged pyramidal design elevated on a platform with mossy ground, studded with gay flowers, supported on four square columns, and composed of choice Roses, Dahlias, Verbenas, Heliotropeums, surmounted by an exquisite bouquet of rare green house flowers. A rustic cottage of moss, studded with White and Red Amaranths, and altogether arranged with much skill, both of the above being very creditable to John Quin, Mr. Vail's gardener.

PREMIUMS.

The premiums were awarded as follows:

PLANTS—For the best six growing in pots, to Louis Menand, ... $2

DAHLIAS—For the best display, to Mr. Newcomb, of Pittstown, ... 3

Best twelve dissimilar blooms, to Jas. Wilson, for Constantia, Orlando, Lutea Alba, Golden Rule, Cheltenham Queen, McKenzie's Perfection, Lady Ann Murray, Minerva, Caleb Cope, Tippecanoe, La Belle Blonde, and Marquis of Aylesbury, ... 2

For the best six, to Wm. Newcomb, for Cleopatra, Hero of Stonehenge, Fulwood Scarlet, Marshal Soult, Eevque de Bayeux, and Great Mogul.

For the best flower—specimen bloom—to D. T. Vail, for Beauty of Sussex, ... 1

ROSES—For the best ten varieties, including hardy Perpetuals and Isle de Bourbons, to James Wilson, for Souvenir de la Malmaison, Dr Roques, Mrs. Elliott, Madam Fabert, Eugene Joviene, Crimson Globe, Eugene Hardy, Emilie Courtier, Giant de Batteur, and Phœnix, ... 2

For the best six varieties, to James Wilson, for Souvenier de la Malmaison, Marquis Bocella, Crimson Globe, Giant de Batteur, Eugene Hardy, Duchess of Sutherland, and Emily Courtier, ... 1

PHLOXES—For the best ten varieties, to Dr. Herman Wendell, for Anias Chauviere, Eclipse, Reine de Jour, Superbissima Dodonia, Rosea Superba, Blanc de Neuilly, Mazeppa, Auguste and Princess Mariana, 2

For the best six varieties, to Dr. Herman Wendell, for Goethe, Fleur de Marie, Lawrencia, Eclipse, Anias Chauviere, and Princess Mariana.

For the best seedling, to James Wilson, for a beautiful flower of fine habit and form, its petals being of large size and of variegated white and pink, ... 1

GERMAN ASTERS—For the best display, to Wm. Newcomb, ... 1

For the second best, to James Wilson. 1

VERBENAS—For the best twelve dissimilar blooms, to James Wilson, for Rosy Pink, Beauty Supreme, Bolls Seedling, Davidson's Seedling, Jackson's Red, Jackson's Pink, do Lilac, do. Purple, Eclipse, Rosea, Superba, Brills' Fulgens, Queen and Fulgens, ... 2

For the best six, to James Dingwall, for Beauty Supreme, Eclipse, Roseum, Brille's New Purple, New Fulgens and Susette, ... 1

For the best seedling, to James, Dingwall, for a beautiful light pink flower with well formed truss and large petals, ... 1

ROUND VASE BOUQUET—For Centre Table, for the best, to James Dingwall, ... 2

FLAT PARLOR BOUQUET—, or Mantle Vase, for the best, to Wm Newcomb, ... 2

HAND BOUQUET—Best and most beautiful round one, to Jas. Wilson, ... 1

Best and most beautiful flat one, to Jas. Wilson, ... 1

BASKET BOUQUET—Best and most beautiful, with handle, to Dr. Herman Wendell, ... 2

FLORAL DESIGNS—Best, most beautiful, and most appropriate, to Joel Rathbone, ... 3

Second best, to Dr. Herman Wendell, ... 2

Third best, to D. Thomas Vail, ... 1

VEGETABLES.

The Premiums on Vegetables, were awarded as follows:

To Dr. Herman Wendell, for the best new seedling potatoes, ... $2

Dr J. Wilson, of Bethlehem, half peck of winter potatoes, ... 1

E. P. Prentice, of Mount Hope, for the best Winter squashes, ... 1

John S. Gould, of Albany, blood beets, ... 1

E. P. Prentice, Mt Hope, for the best carrots, ... 1

do do for the best parsnips, ... 1

Joel Rathbone, of Kenwood, for the best egg plants, ... 1

Dr Herman Wendell, Albany, for the best winter cabbage, ... 1

John S. Gould, Albany, for the best cauliflowers, ... 2

V. P. Douw, Wolvenhook, for the best celery, ... 1

Wm. Newcomb, Pittstown, for the best Martynias, ... 1

Jno. S Gould, for the best tomatoes, ... 1

E. P. Prentice, for the most numerous varieties of tomatoes, ... 1

Joel Rathbone, Kenwood, for the best specimens of Okra, ... 1

DISCRETIONARY PREMIUMS.

To Dr. Herman Wendell, for the finest exhibition of vegetables, ... $2

Dr. John Wilson, of Bethlehem, for his assortment of beans, ... 1

Erastus Corning, Jr., for a very large and fine mammoth squash, ... 1

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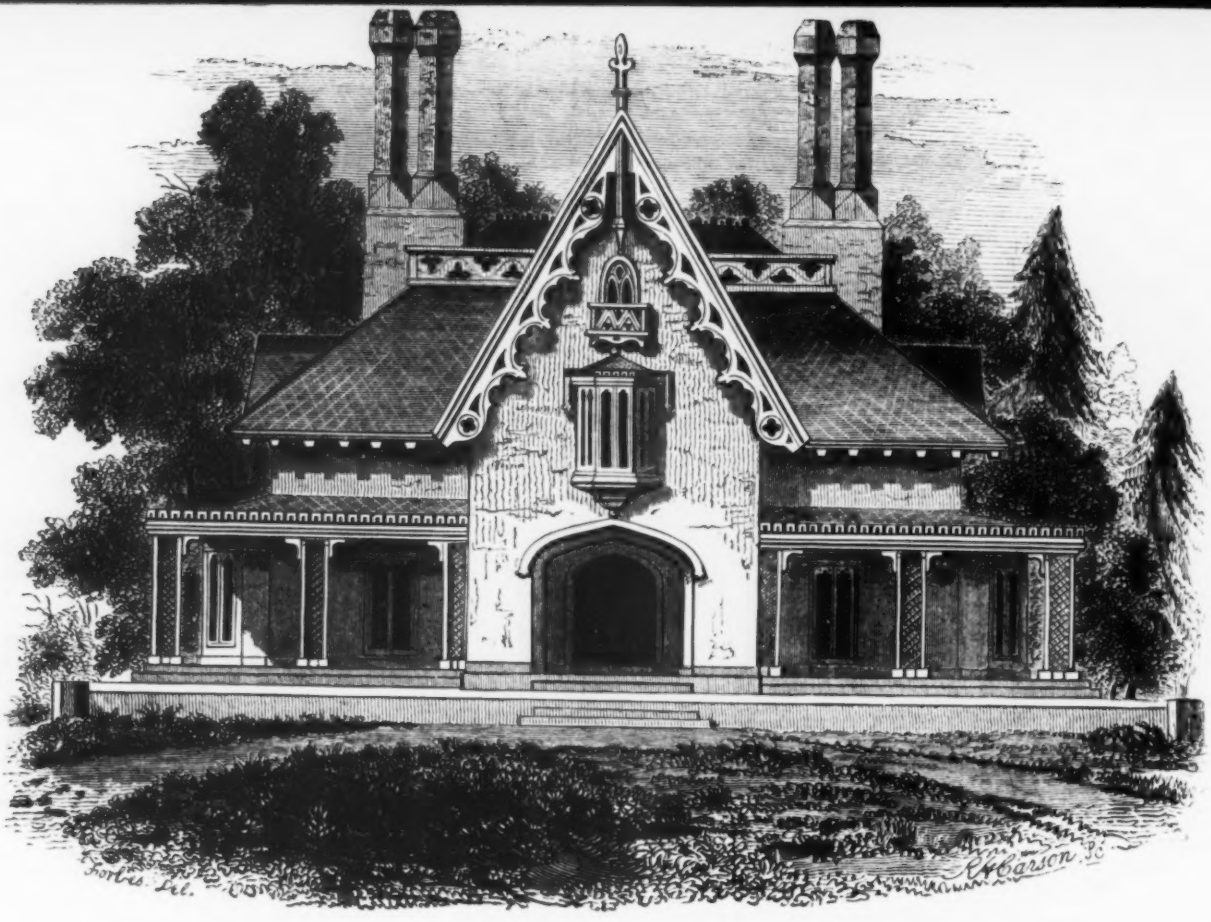
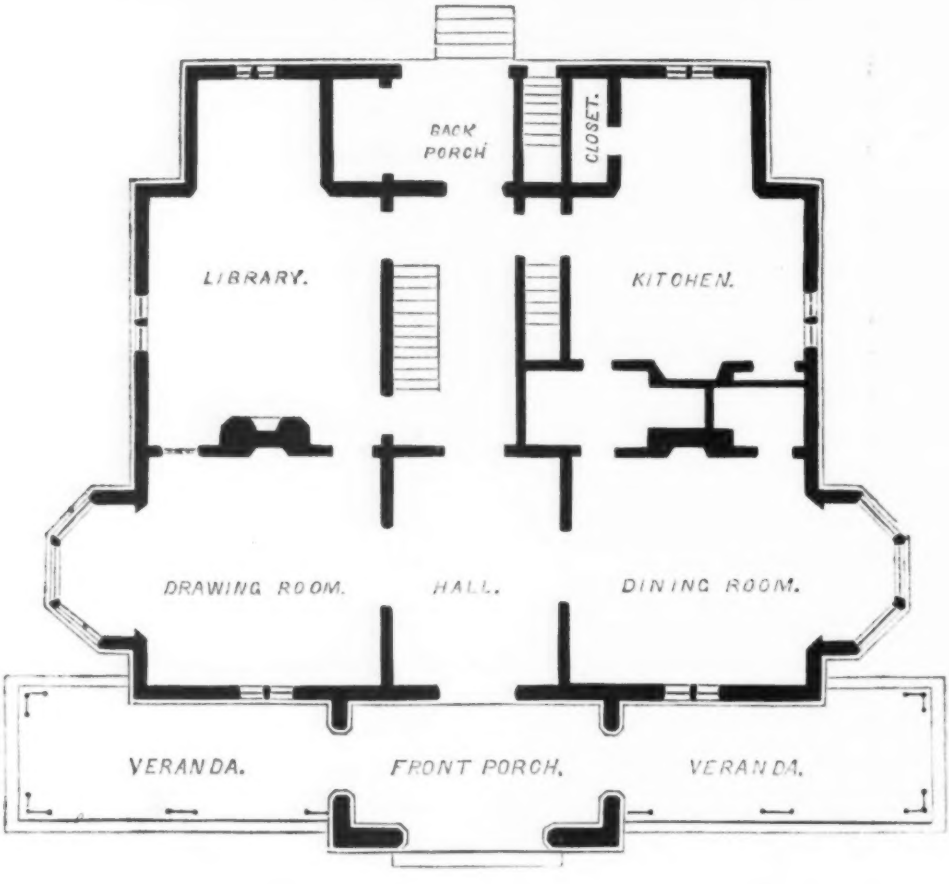


COTTAGE VILLA OF WM. J. ROTCH, ESQ., NEW BEDFORD, MASS.



PRINCIPAL FLOOR.

[Hort: November, 1849.]